PART B

# SOLAR - GEOPHYSICAL DATA

ISSUED

**DECEMBER 1962**

U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
BOULDER, COLORADO

CRPL-F 220
PART B

NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
BOULDER, COLORADO

Issued
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# SOLAR-GEOPHYSICAL DATA

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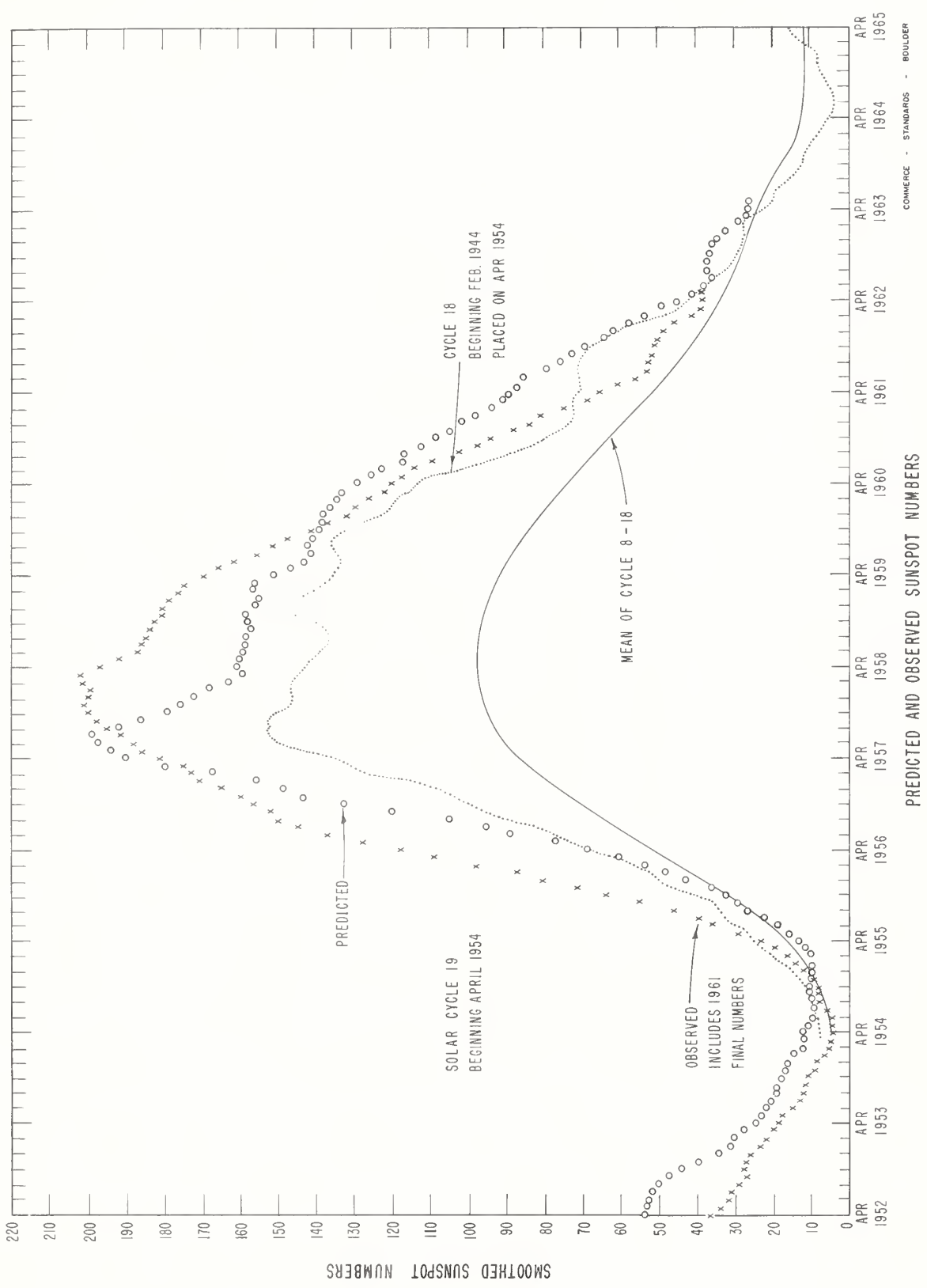
The text was republished in November 1962.

Revision: On page 20 under V COSMIC RAY INDICES change final two sentences to read "The horizontal scale lines are at intervals of 5% based upon 555,000 counts per hour, arbitrary taken as 100%. The measured standard deviation of the hourly totals is 0.2%." In July 1962 a change in monitors was made at Deep River increasing the rate to ten times the previous one.

| Oct. 1962 | American Relative Sunspot Numbers $R_{A'}$ |
|---|---|
| 1 | 38 |
| 2 | 31 |
| 3 | 23 |
| 4 | 20 |
| 5 | 14 |
| 6 | 21 |
| 7 | 21 |
| 8 | 34 |
| 9 | 47 |
| 10 | 52 |
| 11 | 56 |
| 12 | 58 |
| 13 | 68 |
| 14 | 64 |
| 15 | 55 |
| 16 | 50 |
| 17 | 47 |
| 18 | 35 |
| 19 | 24 |
| 20 | 24 |
| 21 | 24 |
| 22 | 27 |
| 23 | 38 |
| 24 | 44 |
| 25 | 29 |
| 26 | 37 |
| 27 | 26 |
| 28 | 19 |
| 29 | 14 |
| 30 | 17 |
| 31 | 21 |
| Mean: | 34.8 |

| Nov. 1962 | Zürich Provisional Relative Sunspot Numbers $R_Z$ | Daily Values Solar Flux at 2800 Mc, Ottawa, Canada Flux |
|---|---|---|
| 1 | 16 | 80 |
| 2 | 13 | 80 |
| 3 | 16 | 80 |
| 4 | 12 | 82 |
| 5 | 0 | 82 |
| 6 | 9 | 83 |
| 7 | 12 | 84 |
| 8 | 18 | 85 |
| 9 | 14 | 86 |
| 10 | 14 | -- |
| 11 | 25 | 87 |
| 12 | 25 | 88 |
| 13 | 45 | 93 |
| 14 | 50 | 99 |
| 15 | 58 | 95 |
| 16 | 84 | 99 |
| 17 | 62 | 94 |
| 18 | 44 | 88 |
| 19 | 40 | 89 |
| 20 | 24 | 86 |
| 21 | 17 | 81 |
| 22 | 8 | 79 |
| 23 | 0 | 77 |
| 24 | 12 | 80 |
| 25 | 21 | 77 |
| 26 | 21 | 77 |
| 27 | 16 | 75 |
| 28 | 13 | 74 |
| 29 | 8 | 75 |
| 30 | 10 | 77 |
| Mean: | 23.6 | 83.9 |


PREDICTED AND OBSERVED SUNSPOT NUMBERS
SMOOTHED SUNSPOT NUMBERS
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190
200
210
220
APR 1952
APR 1953
APR 1954
APR 1955
APR 1956
APR 1957
APR 1958
APR 1959
APR 1960
APR 1961
APR 1962
APR 1963
APR 1964
APR 1965
CYCLE 18
BEGINNING FEB. 1944
PLACED ON APR 1954
MEAN OF CYCLE 8 - 18
PREDICTED
SOLAR CYCLE 19
BEGINNING APRIL 1954
OBSERVED
INCLUDES 1961
FINAL NUMBERS
COMMERCE - STANDARDS - BOULDER

# CALCIUM PLAGE AND SUNSPOT REGIONS

NOVEMBER 1962

| CMP Nov. 1962 | Lat | McMath Plage Number | Return of Region | Calcium Plage Data | | | | Sunspot Data | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | CMP Values Area | Int. | History, Age | | CMP Values Area | Count | History |
| 01.2 | N06 | 6602 | * | (500) | 3 | b — ℓ | 1 | | | |
| 01.6 | S13 | 6600 | New | 500 | 3 | ℓ / ℓ | 1 | | | |
| 02.3 | N12 | 6601 | ** | (700) | (2) | b ¬ d | 1 | | | |
| 04.4 | N01 | 6612 | New | (200) | (2.5) | b — ℓ | 1 | | | |
| 08.0 | N05 | 6605 | *** | 1400 | 2 | ℓ ⌐ ℓ | 2 | | | |
| 08.3 | S11 | 6606 | **** | 1500 | 3 | ℓ ¬ ℓ | 1 | | | |
| 10.7 | S13 | 6608 | 6579 | (900) | (1.5) | ℓ ∧ ℓ | 2 | | | |
| 11.0 | N23 | 6610 | 6578 | (600) | (1.5) | b — d | 3 | | | |
| 11.5 | N12 | 6609 | New | (500) | (2) | ℓ — d | 1 | | | |
| 12.7 | S13 | 6611 | New | 1500 | 3 | ℓ ∧ ℓ | 1 | 340 | 1 | ℓ — ℓ |
| 12.7 | N10 | 6619 | + | (200) | (2.5) | b — d | 1 | | | |
| 13.0 | N19 | 6613 | New | 1200 | 3 | b ⌐ ℓ | 1 | 270 | 7 | b ¬ d |
| 14.0 | N04 | 6614 | 6581 | 700 | 2.5 | ℓ ¬ ℓ | 3 | | | |
| 14.4 | S18 | 6615 | 6580 | 1000 | 2.5 | ℓ ¬ ℓ | 4 | | | |
| 17.1 | S15 | 6616 | 6593 | (2000) | (3) | ℓ — ℓ | 2 | 80 | 4 | b ∧ ℓ |
| 17.1 | N14 | 6617 | New | (1200) | (3) | ℓ / ℓ | 1 | 240 | 7 | b ∧ ℓ |
| 20.5 | N11 | 6618 | 6586 | 1100 | 2 | ℓ ∧ ℓ | 5 | | | |
| 22.7 | N12 | 6621 | 6591 | 1700 | 2 | ℓ ⋀ ℓ | 4 | | | |
| 24.4 | N15 | 6624 | ++ | 1100 | 2 | b / d | 1 | | | |
| 24.6 | N20 | 6630 | New | (600) | (3) | b — ℓ | 1 | | | |
| 25.1 | S12 | 6622 | 6604 | 800 | 2.5 | ℓ — ℓ | 2 | | | |
| 25.7 | N07 | 6625 | ++ | 200 | 2 | b — d | 1 | | | |
| 26.6 | S02 | 6633 | New | (500) | (2.5) | b — d | 1 | | | |
| 28.4 | N16 | 6628 | 6597 | 1000 | 1.5 | b ⌐ d | 2 | | | |
| 28.5 | S18 | 6623 | 6600 | 900 | 2 | ℓ \ d | 2 | | | |
| 28.5 | N00 | 6635 | New | (200) | (1.5) | b — d | 1 | | | |
| 29.0 | N19 | 6640 | New | (200) | (2) | b — ℓ | 1 | | | |
| 29.4 | S12 | 6627 | New | 500 | 2 | b — d | 1 | | | |
| 29.9 | S12 | 6636 | New | (200) | (2) | b — d | 1 | | | |

* New in position of part of 6566
** New in position of 6569
*** New in position of 6570, 6571
**** New, near position of 6575
\+ New in position of 6582
++ New and ephemeral

COMMERCE - STANDARDS - BOULDER

# MT. WILSON MAGNETIC CLASSIFICATIONS OF SUNSPOTS

NOVEMBER 1962

| Nov. 1962 | Time Meas. | Lat. | Mer. Dist. | Type | | Nov. 1962 | Time Meas. | Lat. | Mer. Dist. | Type |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 2245 | S16 | W20 | β | | 15 | 1610 | S13 | W43 | αp |
| | | | | | | | | N20 | W36 | βf |
| 3 | 1615 | S16 | W30 | βp | | | | S15 | E18 | β |
| | | | | | | | | N13 | E19 | βp |
| 7 | 1700 | S14 | E61 | αp | | 17 | 1710 | S14 | W70 | αp |
| | | | | | | | | N19 | W60 | β |
| 8 | 1610 | S14 | E48 | αp | | | | N11 | W 7 | βf |
| | | | | | | | | S17 | W 9 | βf |
| 9 | 1630 | S14 | E35 | αp | | | | | | |
| | | | | | | 19 | 2245 | N13 | W37 | βp |
| 10 | 1700 | S14 | E22 | αp | | | | S17 | W37 | β |
| 11 | 1635 | S14 | E 9 | αp | | 20 | 1640 | N12 | W50 | αp |
| | | S15 | E75 | αf | | | | S17 | W48 | βp |
| | | N12 | E75 | β | | | | | | |
| | | | | | | 30 | 1705 | N01 | E 7 | αp |
| | | | | | | | | N16 | E33 | β |

COMMERCE - STANDARDS - BOULDER

# FINAL CORONAL LINE EMISSION INDICES

JULY 1962

| CMP Jul 1962 | North East Quadrant (observed 7 days earlier) | | | | South East Quadrant (observed 7 days earlier) | | | | South West Quadrant (observed 7 days later) | | | | North West Quadrant (observed 7 days later) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $G_6$ | $G_1$ | $R_6$ | $R_1$ | $G_6$ | $G_1$ | $R_6$ | $R_1$ | $G_6$ | $G_1$ | $R_6$ | $R_1$ | $G_6$ | $G_1$ | $R_6$ | $R_1$ |
| 1 | x | x | x | x | x | x | x | x | 35 | 81 | 17 | 40 | 27 | 50 | 21 | 40 |
| 2 | 15 | 54 | 25a | 72a | 9 | 20 | 45a | 81a | x | x | x | x | x | x | x | x |
| 3 | 37 | 104 | 16a | 28a | 17 | 25 | 19a | 33a | 4a | 6a | 3a | 4a | 12a | 25a | 4a | 6a |
| 4 | 16 | 28 | 13a | 16a | 5 | 8 | 14a | 18a | 6 | 8 | 8a | 14a | 24 | 36 | 9a | 22a |
| 5 | 60 | 82 | 4a | 5a | 12 | 30 | 6a | 7a | x | x | 8a | 10a | x | x | 9a | 10a |
| 6 | 30 | 38 | x | x | 20 | 26 | x | x | 27 | 64 | 9a | 16a | 21 | 22 | 6a | 18a |
| 7 | 32 | 47 | 2 | 3 | 30 | 51 | 5 | 14 | 35 | 78 | 7a | 8a | 21 | 25 | 6a | 13a |
| 8 | 33 | 42 | 4a | 8a | 48 | 95 | 10a | 12a | 17 | 36 | 8 | 10 | 22 | 34 | 6 | 7 |
| 9 | 39 | 59 | 6a | 17a | 28 | 48 | 6a | 7a | 30 | 39 | 8a | 11a | 28 | 39 | 4a | 6a |
| 10 | 70 | 137 | 6a | 22a | 38 | 70 | 6a | 20a | 33 | 54 | 5 | 8 | 36 | 47 | 4 | 9 |
| 11 | 52 | 67 | 13a | 28a | 44 | 92 | 10a | 44a | 35 | 53 | 3 | 6 | 45 | 56 | 3 | 9 |
| 12 | 61 | 87 | x | x | 44 | 93 | x | x | 34 | 53 | 3 | 4 | 48 | 67 | 3 | 8 |
| 13 | 62 | 72 | 3 | 9 | 44 | 72 | 5 | 8 | 27 | 44 | 3 | 4 | 51 | 73 | 2 | 9 |
| 14 | 29 | 38 | 5 | 15 | 22 | 48 | 5 | 13 | x | x | x | x | x | x | x | x |
| 15 | 26 | 36 | 6 | 10 | 12 | 17 | 11 | 18 | 5 | 8 | 15 | 17 | 10 | 14 | 7 | 10 |
| 16 | x | x | x | x | x | x | x | x | 3 | 6 | 13 | 15 | 4 | 4 | 7 | 10 |
| 17 | 9a | 30a | 7a | 12a | 4a | 6a | 3a | 4a | 24 | 32 | x | x | 37 | 42 | x | x |
| 18 | 33 | 53 | 6a | 12a | 12 | 17 | 14a | 16a | x | x | x | x | x | x | x | x |
| 19 | x | x | 14a | 28a | x | x | 22a | 30a | x | x | x | x | x | x | x | x |
| 20 | 71 | 101 | 3a | 4a | 21 | 48 | 13a | 18a | 88 | 114 | 11a | 31a | 33 | 62 | 3a | 4a |
| 21 | 54 | 67 | 8 | 16 | 21 | 48 | 9 | 12 | 12 | 22 | 17a | 25a | 56 | 95 | 11a | 20a |
| 22 | 36 | 70 | 8 | 15 | 7 | 14 | 7 | 7 | 4 | 8 | x | x | 31 | 62 | x | x |
| 23 | 19 | 34 | 16a | 40a | 5 | 8 | 17a | 28a | 14 | 20 | 11a | 17a | 29 | 39 | 9a | 15a |
| 24 | 18 | 21 | 11 | 22 | 10 | 14 | 9 | 13 | 3 | 4 | 8 | 10 | 5 | 8 | 10 | 20 |
| 25 | 12 | 22 | 6 | 8 | 8 | 11 | 8 | 12 | 11 | 20 | 18a | 24a | 9 | 14 | 18a | 38a |
| 26 | 24 | 34 | 5 | 10 | 15 | 20 | 3 | 5 | 33 | 53 | 10a | 16a | 18 | 53 | 16a | 30a |
| 27 | 28 | 49 | 7 | 9 | 26 | 43 | 0 | 0 | 15 | 28 | 5 | 13 | 4 | 10 | 8 | 19 |
| 28 | x | x | x | x | x | x | x | x | 4 | 6 | 9 | 18 | 18 | 31 | 11 | 17 |
| 29 | 8 | 12 | 12 | 30 | 6 | 10 | 11 | 17 | 9 | 11 | 8a | 17a | 16 | 17 | 8a | 12a |
| 30 | 17 | 40 | 15 | 35 | 5 | 10 | 8 | 10 | 3 | 4 | 5 | 5 | 4 | 6 | 5 | 10 |
| 31 | 41 | 58 | x | x | 26 | 31 | x | x | 2 | 2 | 3 | 7 | 4 | 6 | 2 | 10 |

x = no observations  * = yellow line  a = index computed from low weight data

COMMERCE - STANDARDS - BOULDER

# FINAL CORONAL LINE EMISSION INDICES

AUGUST 1962

| CMP Aug 1962 | North East Quadrant (observed 7 days earlier) | | | | South East Quadrant (observed 7 days earlier) | | | | South West Quadrant (observed 7 days later) | | | | North West Quadrant (observed 7 days later) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $G_6$ | $G_1$ | $R_6$ | $R_1$ | $G_6$ | $G_1$ | $R_6$ | $R_1$ | $G_6$ | $G_1$ | $R_6$ | $R_1$ | $G_6$ | $G_1$ | $R_6$ | $R_1$ |
| 1 | x | x | x | x | x | x | x | x | 11 | 15 | 9 | 10 | 24 | 28 | 8 | 11 |
| 2 | x | x | x | x | x | x | x | x | 10 | 12 | 10 | 15 | 11 | 16 | 9 | 12 |
| 3 | 34 | 77 | 8a | 17a | 21 | 26 | 6a | 9a | 17 | 31 | x | x | 17 | 28 | 4 | 6 |
| 4 | 21 | 28 | 4a | 8a | 17 | 36 | 5a | 10a | 22 | 28 | 23 | 28 | 12 | 15 | 12 | 18 |
| 5 | 17 | 25 | x | x | 18 | 34 | x | x | x | x | x | x | x | x | x | x |
| 6 | 52 | 62 | 12a | 22a | 58 | 82 | 10a | 25a | 14a | 20a | 15a | 22a | 20a | 24a | 9a | 12a |
| 7 | 23 | 48 | 10 | 27 | 4 | 10 | 6 | 10 | 17 | 28 | 10 | 16 | 24 | 34 | 7 | 14 |
| 8 | 49 | 87 | 10a | 40a | 18 | 31 | 5a | 10a | 17 | 34 | 18a | 23a | 37 | 47 | 5a | 15a |
| 9 | 48 | 70 | 6a | 8a | 22 | 34 | 8a | 12a | 14 | 20 | 15 | 19 | 36 | 42 | 13 | 16 |
| 10 | 7 | 12 | 3 | 11 | 3 | 4 | 6 | 8 | 16 | 22 | 14 | 16 | 27 | 34 | 9 | 12 |
| 11 | 17 | 25 | 5 | 6 | 10 | 14 | 6 | 8 | 28 | 34 | 24 | 29 | 48 | 55 | 11 | 14 |
| 12 | 16 | 20 | 5a | 6a | 9 | 17 | 7a | 10a | 5 | 9 | 12 | 13 | 12 | 26 | 14 | 25 |
| 13 | 5 | 8 | 5 | 5 | 3 | 8 | 6 | 7 | 20 | 52 | x | x | 51 | 75 | x | x |
| 14 | 6 | 8 | 3 | 6 | 3 | 4 | 6 | 10 | 18 | 21 | x | x | 42 | 50 | x | x |
| 15 | 13 | 17 | 8 | 9 | 36 | 45 | 11 | 15 | 9 | 14 | 8 | 9 | 43 | 70 | 8 | 10 |
| 16 | 34 | 71 | 12 | 22 | 9 | 17 | 15 | 19 | 13 | 25 | 10 | 14 | 47 | 92 | 12 | 16 |
| 17 | 55 | 87 | 8 | 16 | 13 | 14 | 8 | 12 | 18 | 28 | 30a | 42a | 48 | 70 | 34a | 52a |
| 18 | 44 | 73 | 30 | 68 | 13 | 17 | 16 | 23 | 34 | 112 | 38a | 68a | 64 | 92 | 53a | 118a |
| 19 | 35 | 78 | x | x | 9 | 17 | x | x | 13 | 34 | 47a | 66a | 58 | 129 | 77a | 157a |
| 20 | 11 | 20 | 15a | 24a | 1 | 3 | 26a | 42a | 17 | 28 | 36a | 41a | 72 | 171 | 51a | 123a |
| 21 | 15 | 20 | 19 | 28 | 10 | 20 | 26 | 34 | 18 | 28 | 16a | 18a | 24 | 42 | 24a | 36a |
| 22 | 15 | 20 | 23a | 33a | 6 | 17 | 23a | 32a | 13 | 22 | 26a | 35a | 20 | 31 | 29a | 33a |
| 23 | 33 | 78 | 17 | 25 | 20 | 25 | 13 | 33 | x | x | x | x | x | x | x | x |
| 24 | 32 | 59 | 26 | 43 | 18 | 25 | 15 | 25 | 20 | 59 | 15a | 20a | 17 | 48 | 19a | 27a |
| 25 | 28 | 76 | 23 | 51 | 12 | 17 | 13 | 19 | 6 | 8 | 14a | 16a | 13 | 17 | 13a | 15a |
| 26 | 7 | 10 | 14 | 18 | 5 | 7 | 10 | 13 | 9 | 11 | 11 | 14 | 13 | 14 | 13 | 17 |
| 27 | 26 | 66 | x | x | 10 | 19 | x | x | 6 | 8 | 8 | 10 | 12 | 22 | 13 | 16 |
| 28 | 37 | 42 | x | x | 19 | 24 | x | x | 9 | 13 | 9 | 13 | 21 | 26 | 20 | 26 |
| 29 | 14 | 20 | 7 | 10 | 15 | 22 | 8 | 9 | 15 | 19 | 16a | 20a | 20 | 28 | 25a | 29a |
| 30 | 24 | 42 | 12 | 20 | 12 | 15 | 9 | 11 | 10 | 15 | 13 | 15 | 8 | 10 | 13 | 16 |
| 31 | 22 | 34 | 23a | 33a | 14 | 22 | 11a | 30a | 25 | 31 | 11 | 12 | 12 | 16 | 7 | 10 |

x = no observations  * = yellow line  a = index computed from low weight data



COMMERCE - STANDARDS - BOULDER

# FINAL CORONAL LINE EMISSION INDICES

SEPTEMBER 1962

| CMF Sep 1962 | North East Quadrant (observed 7 days earlier) | | | | South East Quadrant (observed 7 days earlier) | | | | South West Quadrant (observed 7 days later) | | | | North West Quadrant (observed 7 days later) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $G_6$ | $G_1$ | $R_6$ | $R_1$ | $G_6$ | $G_1$ | $R_6$ | $R_1$ | $G_6$ | $G_1$ | $R_6$ | $R_1$ | $G_6$ | $G_1$ | $R_6$ | $R_1$ |
| 1 | 33 | 81 | 24a | 43a | 14 | 25 | 26a | 44a | 20 | 40 | 5 | 8 | 17 | 23 | 6 | 11 |
| 2 | 13 | 22 | 26 | 35 | 15 | 28 | 24 | 39 | 34 | 64 | 29 | 61 | 45 | 64 | 16 | 20 |
| 3 | 23 | 36 | 11 | 15 | 29 | 56 | 21 | 30 | 22 | 31 | 14 | 20 | 39 | 73 | 16 | 26 |
| 4 | 27 | 39 | 11 | 15 | 15 | 22 | 17 | 20 | 10 | 11 | 28a | 35a | 36 | 39 | 18a | 25a |
| 5 | 36 | 39 | 12 | 15 | 17 | 28 | 22 | 30 | 11 | 22 | 22a | 34a | 37 | 53 | 11a | 21a |
| 6 | 48a | 60a | 25a | 30a | 21a | 25a | 20a | 24a | 16 | 22 | 4 | 5 | 26 | 36 | 3 | 12 |
| 7 | 38 | 67 | 23a | 60a | 14 | 22 | 17a | 20a | 27 | 33 | 11 | 13 | 41 | 49 | 19 | 34 |
| 8 | 50 | 120 | 34 | 64 | 21 | 48 | 20 | 25 | 45 | 67 | 15 | 19 | 32 | 62 | 13 | 25 |
| 9 | 41 | 92 | 24 | 40 | 35 | 70 | 21 | 36 | 49 | 80 | 14 | 22 | 23 | 35 | 15 | 25 |
| 10 | 17 | 22 | 5 | 10 | 27 | 64 | 6 | 8 | 22 | 34 | 13 | 16 | 16 | 20 | 10 | 14 |
| 11 | 25 | 29 | 5 | 8 | 33 | 51 | 8 | 13 | 16 | 36 | 22a | 29a | 20 | 31 | 15a | 18a |
| 12 | 43 | 49 | 15 | 30 | 23 | 35 | 26 | 34 | 29 | 40 | 29 | 33 | 26 | 31 | 9 | 11 |
| 13 | 25 | 30 | 16 | 27 | 11 | 25 | 19 | 21 | 29 | 44 | 21 | 25 | 20 | 25 | 12 | 14 |
| 14 | 41 | 78 | 13 | 30 | 40 | 78 | 11 | 18 | 45 | 69 | 7 | 9 | 28 | 32 | 7 | 10 |
| 15 | 25 | 48 | x | x | 22 | 43 | x | x | 31 | 56 | 8 | 12 | 39 | 50 | 13 | 16 |
| 16 | 28 | 53 | 36 | 88 | 22 | 39 | 41 | 60 | 33 | 70 | 12 | 16 | 56 | 70 | 26 | 41 |
| 17 | 12 | 17 | 31 | 38 | 10 | 20 | 21 | 34 | 42 | 58 | x | x | 97 | 147 | x | x |
| 18 | 14 | 22 | 36 | 58 | 12 | 17 | 24 | 31 | 8 | 20 | 20 | 23 | 36 | 64 | 27 | 42 |
| 19 | 19 | 31 | 22a | 35a | 13 | 17 | 16a | 24a | 20 | 39 | 14 | 23 | 9 | 11 | 22 | 30 |
| 20 | 21 | 28 | 4 | 5 | 22 | 33 | 3 | 14 | 18 | 48 | x | x | 9 | 11 | x | x |
| 21 | 18 | 22 | 13 | 16 | 31 | 45 | 13 | 18 | x | x | x | x | x | x | x | x |
| 22 | 6 | 8 | 11 | 14 | 8 | 20 | 11 | 15 | 9 | 13 | 12 | 15 | 11 | 16 | 19 | 22 |
| 23 | 10 | 12 | 13 | 15 | 8 | 10 | 12 | 15 | 5 | 8 | 12 | 15 | 19 | 36 | 22 | 57 |
| 24 | 11 | 17 | 16 | 24 | 7 | 8 | 7 | 8 | 11 | 17 | 14 | 16 | 22 | 76 | 28 | 42 |
| 25 | 8 | 14 | 15a | 20a | 8 | 11 | 14a | 16a | 2 | 6 | x | x | 42 | 73 | x | x |
| 26 | 17 | 21 | 16 | 20 | 11 | 17 | 11 | 12 | 13 | 20 | 15 | 18 | 58 | 126 | 35 | 82 |
| 27 | 19 | 28 | 13 | 17 | 9 | 15 | 13 | 18 | 21 | 42 | 20 | 23 | 44 | 92 | 45 | 87 |
| 28 | 43 | 67 | 17 | 28 | 22 | 31 | 4 | 7 | 15 | 40 | x | x | 51 | 102 | x | x |
| 29 | 53 | 76 | 20 | 33 | 16 | 45 | 6 | 9 | 24 | 58 | 10 | 12 | 57 | 114 | 22 | 50 |
| 30 | 95 | 117 | 22 | 48 | 40 | 102 | 12 | 15 | 19 | 34 | 30 | 40 | 36 | 45 | 32 | 77 |

x = no observations  * = yellow line  a = index computed from low weight data



COMMERCE - STANDARDS - BOULDER

# PROVISIONAL CORONAL LINE EMISSION INDICES

NOVEMBER 1962

| CMF Nov 1962 | North East Quadrant (observed 7 days earlier) | | | | South East Quadrant (observed 7 days earlier) | | | | South West Quadrant (observed 7 days later) | | | | North West Quadrant (observed 7 days later) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $G_6$ | $G_1$ | $R_6$ | $R_1$ | $G_6$ | $G_1$ | $R_6$ | $R_1$ | $G_6$ | $G_1$ | $R_6$ | $R_1$ | $G_6$ | $G_1$ | $R_6$ | $R_1$ |
| 1 | 48 | 85 | 7 | 10 | 18 | 40 | 19 | 27 | 20 | 39 | 22 | 59 | 28 | 42 | 8 | 13 |
| 2 | 38 | 56 | 11 | 16 | 18 | 41 | 16 | 18 | 17 | 24 | 22 | 32 | 21 | 27 | 11 | 12 |
| 3 | 21 | 31 | 10 | 18 | 9 | 18 | 20 | 25 | 7 | 10 | 7 | 9 | 9 | 11 | 4 | 6 |
| 4 | 14 | 23 | 15 | 19 | 9 | 12 | 14 | 19 | 7 | 12 | 15 | 21 | 7 | 9 | 8 | 11 |
| 5 | 20 | 25 | 9 | 10 | 9 | 13 | 17 | 29 | 10 | 13 | 12 | 16 | 12 | 24 | 7 | 10 |
| 6 | 31 | 48 | 26 | 41 | 15 | 19 | 25 | 28 | 16 | 28 | 11 | 17 | 22 | 40 | 7 | 9 |
| 7 | 36 | 69 | 10 | 18 | 24 | 39 | 16 | 30 | x | x | x | x | x | x | x | x |
| 8 | 22 | 43 | 6 | 8 | 33 | 79 | 10 | 20 | x | x | x | x | x | x | x | x |
| 9 | 22 | 28 | 18 | 20 | 27 | 48 | 22 | 51 | x | x | x | x | x | x | x | x |
| 10 | 32 | 64 | 24 | 32 | 43 | 77 | 24 | 29 | x | x | x | x | x | x | x | x |
| 11 | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| 12 | 30 | 39 | 21 | 37 | 62 | 119 | 25 | 48 | x | x | x | x | x | x | x | x |
| 13 | 21 | 55 | 25 | 49 | 63 | 105 | 31 | 67 | 39 | 60 | 25 | 43 | 38 | 46 | 30 | 40 |
| 14 | 37 | 84 | 18 | 24 | 40 | 73 | 37 | 55 | 29 | 53 | 18 | 24 | 19 | 25 | 14 | 19 |
| 15 | 21 | 76 | 12 | 30 | 20 | 32 | 30 | 48 | 41 | 71 | 30 | 45 | 29 | 52 | 25 | 35 |
| 16 | 13 | 16 | 14 | 20 | 34 | 57 | 33 | 54 | x | x | x | x | x | x | x | x |
| 17 | 7 | 12 | 5 | 7 | 18 | 36 | 12 | 33 | 33 | 90 | 38 | 68 | 32 | 52 | 29 | 40 |
| 18 | 12 | 17 | 13 | 17 | 8 | 11 | 24 | 46 | x | x | x | x | x | x | x | x |
| 19 | 16 | 30 | 9 | 12 | 6 | 8 | 9 | 12 | 5 | 6 | 14 | 15 | 14 | 25 | 12 | 12 |
| 20 | 24 | 41 | 9 | 12 | 8 | 9 | 10 | 16 | 8 | 20 | 9 | 10 | 18 | 33 | 9 | 14 |
| 21 | x | x | x | x | x | x | x | x | 7 | 11 | 14 | 16 | 25 | 43 | 12 | 20 |
| 22 | x | x | x | x | x | x | x | x | 19 | 31 | x | x | 61 | 84 | x | x |
| 23 | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| 24 | x | x | x | x | x | x | x | x | x | x | x | x | x | x | [illegible] | x |
| 25 | x | x | x | x | x | x | x | x | 14 | 22 | 27 | 28 | 21 | 34 | [illegible] | 40 |
| 26 | x | x | x | x | x | x | x | x | 5 | 6 | 12 | 15 | 23 | 27 | 10 | 13 |
| 27 | 21 | 33 | 8 | 10 | 13 | 17 | 12 | 15 | 7 | 11 | 10 | 12 | 16 | 18 | 8 | 10 |
| 28 | 15 | 25 | 5 | 8 | 12 | 24 | 8 | 9 | 7 | 17 | 17 | 19 | 20 | 22 | 8 | 14 |
| 29 | 30 | 36 | 9 | 14 | 19 | 45 | 16 | 17 | 7 | 10 | 12 | 16 | 14 | 18 | 7 | 8 |
| 30 | x | x | x | x | x | x | x | x | 11 | 14 | 14 | 17 | 24 | 40 | 10 | 13 |

x = no observations

a = index computed from low weight data

* = yellow line

# SOLAR FLARES

## NOVEMBER 1962

| OBSERVATORY | DATE NOV 1962 | OBSERVED UNIVERSAL TIME START | END | MAX PHASE | LOCATION APPROX LAT. | MER DIST | McMATH PLAGE REGION | DURATION — MINUTES | IMPORTANCE | OBS COND | MEASUREMENTS TIME U T | MEAS AREA Sq Deg | CORR AREA Sq Deg | MAX WIDTH Ho | MAX INT | PROVISIONAL IONOSPHERIC EFFECT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 0255 | 0430 | NO FLARE | PATROL | | | | | | | | | | | |
| | 01 | 0600 | 0730 | NO FLARE | PATROL | | | | | | | | | | | |
| | 01 | 0805 | 0850 | NO FLARE | PATROL | | | | | | | | | | | |
| | 01 | 0920 | 0930 | NO FLARE | PATROL | | | | | | | | | | | |
| | 01 | 0940 | 1005 | NO FLARE | PATROL | | | | | | | | | | | |
| | 01 | 1025 | 1035 | NO FLARE | PATROL | | | | | | | | | | | |
| | 01 | 1045 | 1050 | NO FLARE | PATROL | | | | | | | | | | | |
| | 01 | 1125 | 1135 | NO FLARE | PATROL | | | | | | | | | | | |
| | 01 | 1205 | 1210 | NO FLARE | PATROL | | | | | | | | | | | |
| | 01 | 1220 | 1230 | NO FLARE | PATROL | | | | | | | | | | | |
| | 01 | 1240 | 1255 | NO FLARE | PATROL | | | | | | | | | | | |
| | 01 | 1325 | 1400 | NO FLARE | PATROL | | | | | | | | | | | |
| | 01 | 1410 | 1435 | NO FLARE | PATROL | | | | | | | | | | | |
| SAC PEAK | 01 | 1616 E | 1652 D | 1623 | N17 | W13 | | | 1- | 3 | | 1.82 | 1.79 | | 17 | |
| MCMATH | 01 | 1620 | 1640 | 1622 | N17 | W12 | 6597 | | 1- | 2 | 1622 | 1.50 | 1.60 | | | |
| | 02 | 0150 | 0155 | NO FLARE | PATROL | | | | | | | | | | | |
| | 02 | 0205 | 0605 | NO FLARE | PATROL | | | | | | | | | | | |
| | 02 | 0615 | 0725 | NO FLARE | PATROL | | | | | | | | | | | |
| | 02 | 0735 | 0740 | NO FLARE | PATROL | | | | | | | | | | | |
| | 02 | 0905 | 0920 | NO FLARE | PATROL | | | | | | | | | | | |
| | 02 | 1040 | 1045 | NO FLARE | PATROL | | | | | | | | | | | |
| | 02 | 1050 | 1125 | NO FLARE | PATROL | | | | | | | | | | | |
| | 02 | 1130 | 1215 | NO FLARE | PATROL | | | | | | | | | | | |
| | 03 | 0045 | 0050 | NO FLARE | PATROL | | | | | | | | | | | |
| | 03 | 0125 | 0700 | NO FLARE | PATROL | | | | | | | | | | | |
| | 03 | 1005 | 1030 | NO FLARE | PATROL | | | | | | | | | | | |
| ATHENES | 03 | 1125 E | 1130 | | S15 | W27 | | | 1- | 3 | | .50 | .60 | | | |
| | 03 | 1245 | 1330 | NO FLARE | PATROL | | | | | | | | | | | |
| | 03 | 1340 | 1440 | NO FLARE | PATROL | | | | | | | | | | | |
| | 03 | 2220 | 2250 | NO FLARE | PATROL | | | | | | | | | | | |
| | 03 | 2310 | 2315 | NO FLARE | PATROL | | | | | | | | | | | |
| | 04 | 0110 | 0545 | NO FLARE | PATROL | | | | | | | | | | | |
| ATHENES | 04 | 0628 E | 0635 | | S14 | W39 | | | 1- | 3 | | .50 | .60 | | | |
| ATHENES | 04 | 0631 | 0655 | | S12 | W82 | | | 1- | 3 | | .30 | 1.50 | | | |
| ATHENES | 04 | 0817 E | 0835 D | | S12 | W85 | | 18 D | 1 | 3 | | .40 | 2.60 | | | |
| | 04 | 1110 | 1120 | NO FLARE | PATROL | | | | | | | | | | | |
| | 04 | 1225 | 1250 | NO FLARE | PATROL | | | | | | | | | | | |
| | 04 | 1255 | 1315 | NO FLARE | PATROL | | | | | | | | | | | |
| | 04 | 1340 | 1400 | NO FLARE | PATROL | | | | | | | | | | | |
| | 04 | 1420 | 1435 | NO FLARE | PATROL | | | | | | | | | | | |
| | 04 | 2010 | 2015 | NO FLARE | PATROL | | | | | | | | | | | |
| | 05 | 0555 | 0800 | NO FLARE | PATROL | | | | | | | | | | | |
| | 05 | 0940 | 1710 | NO FLARE | PATROL | | | | | | | | | | | |
| | 06 | 0245 | 0420 | NO FLARE | PATROL | | | | | | | | | | | |
| | 06 | 0550 | 0730 | NO FLARE | PATROL | | | | | | | | | | | |
| | 06 | 0745 | 0840 | NO FLARE | PATROL | | | | | | | | | | | |

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| OBSERVATORY | DATE NOV 1962 | OBSERVED UNIVERSAL TIME START | END | MAX PHASE | LOCATION APPROX LAT. | MER. DIST. | McMATH PLAGE REGION | DURATION — MINUTES | IMPORTANCE | OBS. COND. | MEASUREMENTS TIME U T | MEAS. AREA Sq Deg. | CORR AREA Sq Deg | MAX WIDTH Ha | MAX INT | PROVISIONAL IONOSPHERIC EFFECT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 06 | 0845 | 0945 | NO FLARE | PATROL | | | | | | | | | | | |
| | 06 | 0950 | 1000 | NO FLARE | PATROL | | | | | | | | | | | |
| | 06 | 1030 | 1040 | NO FLARE | PATROL | | | | | | | | | | | |
| | 06 | 1045 | 1055 | NO FLARE | PATROL | | | | | | | | | | | |
| | 06 | 1100 | 1130 | NO FLARE | PATROL | | | | | | | | | | | |
| | 06 | 1150 | 1315 | NO FLARE | PATROL | | | | | | | | | | | |
| | 06 | 1340 | 1400 | NO FLARE | PATROL | | | | | | | | | | | |
| | 06 | 1455 | 1510 | NO FLARE | PATROL | | | | | | | | | | | |
| | 06 | 1525 | 1600 | NO FLARE | PATROL | | | | | | | | | | | |
| | 07 | 0240 | 0415 | NO FLARE | PATROL | | | | | | | | | | | |
| | 07 | 0500 | 0600 | NO FLARE | PATROL | | | | | | | | | | | |
| ATHENES | 07 | 0625 E | 0658 | | S02 | E70 | | | 1- | 2 | | .40 | 1.10 | | | |
| | 07 | 0755 | 0805 | NO FLARE | PATROL | | | | | | | | | | | |
| | 07 | 0910 | 0945 | NO FLARE | PATROL | | | | | | | | | | | |
| | 07 | 1025 | 1045 | NO FLARE | PATROL | | | | | | | | | | | |
| | 07 | 1050 | 1325 | NO FLARE | PATROL | | | | | | | | | | | |
| WENDEL | 07 | 1141 | 1203 | | S13 | E69 | 6611 | 22 | 1+ | | | | 5.00 | | | |
| | 07 | 1410 | 1440 | NO FLARE | PATROL | | | | | | | | | | | |
| | 07 | 1510 | 1630 | NO FLARE | PATROL | | | | | | | | | | | |
| SAC PEAK | 07 | 1836 E | 1844 D | 1841 | S12 | E63 | | | 1- | 2 | | .56 | .91 | | 16 | |
| | 08 | 0130 | 0430 | NO FLARE | PATROL | | | | | | | | | | | |
| | 08 | 0530 | 0800 | NO FLARE | PATROL | | | | | | | | | | | |
| | 08 | 0805 | 0820 | NO FLARE | PATROL | | | | | | | | | | | |
| | 08 | 0910 | 1410 | NO FLARE | PATROL | | | | | | | | | | | |
| | 08 | 1420 | 1435 | NO FLARE | PATROL | | | | | | | | | | | |
| | 09 | 0155 | 0205 | NO FLARE | PATROL | | | | | | | | | | | |
| | 09 | 0215 | 0225 | NO FLARE | PATROL | | | | | | | | | | | |
| | 09 | 0305 | 0500 | NO FLARE | PATROL | | | | | | | | | | | |
| | 09 | 0540 | 0600 | NO FLARE | PATROL | | | | | | | | | | | |
| | 09 | 0735 | 0810 | NO FLARE | PATROL | | | | | | | | | | | |
| WENDEL | 09 | 0736 E | 0758 D | | S15 | E41 | | | 1- | | | | | | | |
| | 09 | 0845 | 0915 | NO FLARE | PATROL | | | | | | | | | | | |
| WENDEL | 09 | 0900 E | 0906 D | | S15 | E40 | | | 1- | | | | | | | |
| | 09 | 0920 | 0925 | NO FLARE | PATROL | | | | | | | | | | | |
| WENDEL | 09 | 0923 E | 0927 D | | S15 | E40 | | | 1- | | | | | | | |
| | 09 | 0930 | 0935 | NO FLARE | PATROL | | | | | | | | | | | |
| | 09 | 1050 | 1100 | NO FLARE | PATROL | | | | | | | | | | | |
| | 09 | 1105 | 1125 | NO FLARE | PATROL | | | | | | | | | | | |
| | 09 | 1320 | 1340 | NO FLARE | PATROL | | | | | | | | | | | |
| WENDEL | 09 | 1321 E | 1349 D | | S14 | E36 | 6611 | 28 D | 1+ | | | | 5.00 | | | |
| | 09 | 1345 | 1435 | NO FLARE | PATROL | | | | | | | | | | | |
| SAC PEAK | 09 | 2133 E | 2152 D | 2136 | N12 | E25 | | | 1- | 3 | | 1.16 | 1.18 | | 16 | |
| | 10 | 0155 | 0725 | NO FLARE | PATROL | | | | | | | | | | | |
| | 10 | 0735 | 0745 | NO FLARE | PATROL | | | | | | | | | | | |
| | 10 | 1320 | 1340 | NO FLARE | PATROL | | | | | | | | | | | |
| | 10 | 1400 | 1425 | NO FLARE | PATROL | | | | | | | | | | | |
| | 10 | 1430 | 1435 | NO FLARE | PATROL | | | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 11 | 0545 | 0715 | NO FLARE | PATROL | | | | | | | | | | | |
| | 11 | 0750 | 0830 | NO FLARE | PATROL | | | | | | | | | | | |
| WENDEL | 11 | 0807 E | 0835 D | | S14 | E73 | 6616 | 28 D | 1 | | | | 3.00 | | | |
| | 11 | 0835 | 1005 | NO FLARE | PATROL | | | | | | | | | | | |
| | 11 | 1010 | 1025 | NO FLARE | PATROL | | | | | | | | | | | |
| | 11 | 1040 | 1440 | NO FLARE | PATROL | | | | | | | | | | | |
| | 12 | 0000 | 0010 | NO FLARE | PATROL | | | | | | | | | | | |
| | 12 | 0210 | 0420 | NO FLARE | PATROL | | | | | | | | | | | |
| | 12 | 0600 | 0725 | NO FLARE | PATROL | | | | | | | | | | | |
| WENDEL | 12 | 1113 E | 1126 D | | S14 | W40 | | | 1- | | | | | | | |
| WENDEL | 12 | 1119 E | 1132 D | | N12 | E60 | | | 1- | | | | | | | |
| WENDEL | 12 | 1144 E | 1154 D | | N14 | E60 | | | 1- | | | | | | | |
| | 12 | 1225 | 1345 | NO FLARE | PATROL | | | | | | | | | | | |
| | 12 | 1355 | 1440 | NO FLARE | PATROL | | | | | | | | | | | |
| | 13 | 0320 | 0330 | NO FLARE | PATROL | | | | | | | | | | | |
| | 13 | 0420 | 0925 | NO FLARE | PATROL | | | | | | | | | | | |
| | 13 | 0930 | 0955 | NO FLARE | PATROL | | | | | | | | | | | |
| | 13 | 1010 | 1025 | NO FLARE | PATROL | | | | | | | | | | | |
| | 13 | 1030 | 1135 | NO FLARE | PATROL | | | | | | | | | | | |
| | 13 | 1140 | 1155 | NO FLARE | PATROL | | | | | | | | | | | |
| | 13 | 1300 | 1315 | NO FLARE | PATROL | | | | | | | | | | | |
| SAC PEAK | 13 | 2038 E | 2043 D | 2039 | N17 | W13 | | | 1- | 2 | | .62 | .62 | | 16 | |
| | 14 | 0100 | 0915 | NO FLARE | PATROL | | | | | | | | | | | |
| | 14 | 0920 | 1125 | NO FLARE | PATROL | | | | | | | | | | | |
| | 14 | 1200 | 1330 | NO FLARE | PATROL | | | | | | | | | | | |
| MCMATH | 14 | 1337 | 1358 | 1341 | N21 | W18 | 6613 | | 1- | 1 | 1341 | .70 | .80 | | | |
| WENDEL | 14 | 1338 | 1359 | | N22 | W18 | 6613 | 21 | 1 | | | | 4.00 | | | |
| | 14 | 1425 | 1430 | NO FLARE | PATROL | | | | | | | | | | | |
| | 14 | 1455 | 1500 | NO FLARE | PATROL | | | | | | | | | | | |
| | 14 | 1555 | 1620 | NO FLARE | PATROL | | | | | | | | | | | |
| | 14 | 2305 | 2400 | NO FLARE | PATROL | | | | | | | | | | | |
| | 15 | 0000 | 0030 | NO FLARE | PATROL | | | | | | | | | | | |
| | 15 | 0045 | 0125 | NO FLARE | PATROL | | | | | | | | | | | |
| | 15 | 0205 | 0720 | NO FLARE | PATROL | | | | | | | | | | | |
| | 15 | 0920 | 0935 | NO FLARE | PATROL | | | | | | | | | | | |
| HERSTMONCEU | 15 | 0936 E | 1012 | 0943 | N20 | W27 | | | 1- | 2 | 0943 | 1.10 | 1.30 | | | |
| | 15 | 1030 | 1110 | NO FLARE | PATROL | | | | | | | | | | | |
| | 15 | 1115 | 1210 | NO FLARE | PATROL | | | | | | | | | | | |
| | 15 | 1215 | 1345 | NO FLARE | PATROL | | | | | | | | | | | |
| | 15 | 1350 | 1410 | NO FLARE | PATROL | | | | | | | | | | | |
| MCMATH | 15 | 1548 | 1605 | 1552 | N21 | W29 | 6613 | | 1- | 1 | 1552 | .30 | .30 | | | |
| | 15 | 1805 | 1810 | NO FLARE | PATROL | | | | | | | | | | | |
| LOCKHEED | 15 | 1853 | 1915 | 1905 | N17 | W39 | | | 1- | 2 | 1905 | .30 | .30 | | 10 | |
| LOCKHEED | 15 | 2220 | 2236 | 2226 | N17 | W40 | | | 1- | 1 | 2226 | .40 | .40 | | 10 | |
| LOCKHEED | 15 | 2338 | 2356 | 2344 | N20 | W36 | | | 1- | 1 | 2344 | .20 | .20 | | 10 | |
| | 16 | 0035 | 0115 | NO FLARE | PATROL | | | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 16 | 0135 | 0850 | NO FLARE | PATROL | | | | | | | | | | | |
| | 16 | 0855 | 0945 | NO FLARE | PATROL | | | | | | | | | | | |
| SALTSJOBADE | 16 | 0904 E | 1030 D | | S15 | E10 | | | 1- | | 0905 | 2.00 | 2.10 | | | |
| ATHENES | 16 | 0943 E | 1014 D | | N11 | E10 | | | 1- | 4 | | 2.00 | 2.00 | | | |
| | 16 | 1015 | 1025 | NO FLARE | PATROL | | | | | | | | | | | |
| | 16 | 1030 | 1110 | NO FLARE | PATROL | | | | | | | | | | | |
| | 16 | 1120 | 1135 | NO FLARE | PATROL | | | | | | | | | | | |
| CAPRI-S | 16 | 1200 E | 1228 D | | N16 | E04 | | | 1- | 2 | 1208 | .80 | .80 | | | |
| LOCARNO | 16 | 1200 E | 1240 | | N13 | E10 | 6617 | 40 E | 1 | 3 | | | | | | |
| | 16 | 1230 | 1245 | NO FLARE | PATROL | | | | | | | | | | | |
| ZURICH | 16 | 1237 E | 1258 | | N12 | E09 | 6617 | 21 D | 1 | 2 | 1237 | | .50 | | | |
| | 16 | 1320 | 1340 | NO FLARE | PATROL | | | | | | | | | | | |
| | 16 | 1345 | 1650 | NO FLARE | PATROL | | | | | | | | | | | |
| LOCKHEED | 16 | 1820 | 1858 | 1838 | S13 | E02 | | | 1- | 2 | 1838 | 1.60 | 1.60 | | 20 | |
| HONOLULU | 16 | 1826 | 1856 | 1832 | S13 | E04 | 6616 | 30 | 1 | 3 | 1832 | 2.47 | 2.47 | | | |
| HONOLULU | 16 | 2338 | 2358 D | 2346 | S13 | W03 | | | 1- | 2 | 2346 | 1.65 | 1.65 | | | |
| LOCKHEED | 16 | 2343 | 2355 U | 2345 | S13 | W02 | | | 1- | 1 | 2345 | .40 | .40 | | 10 | |
| | 17 | 0440 | 0445 | NO FLARE | PATROL | | | | | | | | | | | |
| | 17 | 0550 | 0740 | NO FLARE | PATROL | | | | | | | | | | | |
| | 17 | 0755 | 0810 | NO FLARE | PATROL | | | | | | | | | | | |
| | 17 | 0900 | 1040 | NO FLARE | PATROL | | | | | | | | | | | |
| WENDEL | 17 | 0945 E | 1000 D | | S13 | W08 | | | 1- | | | | | | | |
| | 17 | 1125 | 1225 | NO FLARE | PATROL | | | | | | | | | | | |
| | 17 | 1235 | 1600 | NO FLARE | PATROL | | | | | | | | | | | |
| | 18 | 0020 | 0610 | NO FLARE | PATROL | | | | | | | | | | | |
| | 18 | 0900 | 0925 | NO FLARE | PATROL | | | | | | | | | | | |
| | 18 | 0955 | 1600 | NO FLARE | PATROL | | | | | | | | | | | |
| | 19 | 0235 | 0245 | NO FLARE | PATROL | | | | | | | | | | | |
| | 19 | 0630 | 0805 | NO FLARE | PATROL | | | | | | | | | | | |
| WENDEL | 19 | 0832 E | 0845 D | | N12 | W27 | | | 1- | | | | | | | |
| | 19 | 0905 | 0930 | NO FLARE | PATROL | | | | | | | | | | | |
| | 19 | 1010 | 1025 | NO FLARE | PATROL | | | | | | | | | | | |
| | 19 | 1055 | 1140 | NO FLARE | PATROL | | | | | | | | | | | |
| | 19 | 1210 | 1225 | NO FLARE | PATROL | | | | | | | | | | | |
| | 19 | 1235 | 1350 | NO FLARE | PATROL | | | | | | | | | | | |
| | 19 | 1355 | 1415 | NO FLARE | PATROL | | | | | | | | | | | |
| | 19 | 1440 | 1445 | NO FLARE | PATROL | | | | | | | | | | | |
| MCMATH | 19 | 1440 E | 1518 | | S18 | W33 | 6616 | | 1- | 1 | 1440 | 1.00 | 1.30 | | | |
| | 19 | 1455 | 1515 | NO FLARE | PATROL | | | | | | | | | | | |
| | 19 | 1605 | 1610 | NO FLARE | PATROL | | | | | | | | | | | |
| | 20 | 0000 | 0755 | NO FLARE | PATROL | | | | | | | | | | | |
| | 20 | 0800 | 0820 | NO FLARE | PATROL | | | | | | | | | | | |
| | 20 | 0830 | 0910 | NO FLARE | PATROL | | | | | | | | | | | |
| | 20 | 0930 | 0945 | NO FLARE | PATROL | | | | | | | | | | | |
| | 20 | 0950 | 1000 | NO FLARE | PATROL | | | | | | | | | | | |
| | 20 | 1005 | 1040 | NO FLARE | PATROL | | | | | | | | | | | |
| | 20 | 1330 | 1340 | NO FLARE | PATROL | | | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | 1345 | 1440 | NO FLARE | PATROL | | | | | | | | | | | |
| | 21 | 0155 | 0715 | NO FLARE | PATROL | | | | | | | | | | | |
| HONOLULU | 21 | 2106 | 2136 | 2116 | S16 | W70 | | | 1- | 2 | 2116 | 1.03 | 1.96 | | | |
| SAC PEAK | 21 | 2108 E | 2133 D | 2119 | S16 | W65 | | | 1- | 3 | | .70 | 1.18 | | 16 | |
| | 22 | 0205 | 0600 | NO FLARE | PATROL | | | | | | | | | | | |
| ATHENES | 22 | 0635 E | 0650 | | N19 | E70 | | | 1- | 2 | | .10 | .30 | | | |
| | 22 | 0910 | 1100 | NO FLARE | PATROL | | | | | | | | | | | |
| | 22 | 1105 | 1200 | NO FLARE | PATROL | | | | | | | | | | | |
| | 22 | 1210 | 1440 | NO FLARE | PATROL | | | | | | | | | | | |
| SAC PEAK | 22 | 1749 E | 1813 D | 1804 | S12 | W85 | | | 1- | 2 | | .41 | | | 16 | |
| | 22 | 2315 | 2325 | NO FLARE | PATROL | | | | | | | | | | | |
| | 22 | 2355 | 2400 | NO FLARE | PATROL | | | | | | | | | | | |
| | 23 | 0000 | 0015 | NO FLARE | PATROL | | | | | | | | | | | |
| | 23 | 0025 | 0035 | NO FLARE | PATROL | | | | | | | | | | | |
| | 23 | 0100 | 0115 | NO FLARE | PATROL | | | | | | | | | | | |
| | 23 | 0150 | 0215 | NO FLARE | PATROL | | | | | | | | | | | |
| | 23 | 0220 | 0255 | NO FLARE | PATROL | | | | | | | | | | | |
| | 23 | 0320 | 0325 | NO FLARE | PATROL | | | | | | | | | | | |
| | 23 | 0335 | 0400 | NO FLARE | PATROL | | | | | | | | | | | |
| | 23 | 0420 | 0710 | NO FLARE | PATROL | | | | | | | | | | | |
| | 23 | 0805 | 0845 | NO FLARE | PATROL | | | | | | | | | | | |
| | 23 | 0955 | 1010 | NO FLARE | PATROL | | | | | | | | | | | |
| | 23 | 1020 | 1235 | NO FLARE | PATROL | | | | | | | | | | | |
| | 23 | 1400 | 1440 | NO FLARE | PATROL | | | | | | | | | | | |
| | 23 | 1450 | 1615 | NO FLARE | PATROL | | | | | | | | | | | |
| | 23 | 1820 | 1850 | NO FLARE | PATROL | | | | | | | | | | | |
| | 23 | 2340 | 2350 | NO FLARE | PATROL | | | | | | | | | | | |
| | 24 | 0510 | 0750 | NO FLARE | PATROL | | | | | | | | | | | |
| | 24 | 0945 | 1000 | NO FLARE | PATROL | | | | | | | | | | | |
| | 24 | 1005 | 1340 | NO FLARE | PATROL | | | | | | | | | | | |
| WENDEL | 24 | 1246 E | 1258 D | | N09 | W19 | | | 1- | | | | | | | |
| WENDEL | 24 | 1308 E | 1321 D | | N10 | W19 | | | 1- | | | | | | | |
| WENDEL | 24 | 1410 E | 1422 D | | N09 | W21 | | | 1- | | | | | | | |
| WENDEL | 24 | 1415 E | 1427 D | | N11 | W20 | | | 1- | | | | | | | |
| WENDEL | 24 | 1459 E | 1505 D | | N09 | W19 | | | 1- | | | | | | | |
| HONOLULU | 24 | 2034 | 2040 D | 2036 | N11 | W24 | | | 1- | 3 | 2036 | 1.03 | 1.04 | | | |
| | 24 | 2140 | 2220 | NO FLARE | PATROL | | | | | | | | | | | |
| HONOLULU | 24 | 2224 E | 2236 D | 2226 | N11 | W25 | | | 1- | 2 | 2226 | 1.45 | 1.47 | | | |
| HONOLULU | 24 | 2356 | 0008 | 0002 | N11 | W25 | | | 1- | 2 | 0002 | 1.03 | 1.04 | | | |
| HONOLULU | 25 | 0110 | 0122 D | 0118 | N12 | W25 | | | 1- | 2 | 0118 | 1.24 | 1.24 | | | |
| IKOMASAN | 25 | 0115 E | 0121 D | | N08 | W26 | 6621 | 6 D | 1 | | 0115 | 1.20 | | 1.50 | 100 | |
| | 25 | 0200 | 0720 | NO FLARE | PATROL | | | | | | | | | | | |
| ATHENES | 25 | 0624 E | 0626 D | | N09 | W27 | | | 1- | 3 | | .20 | .30 | | | |
| ATHENES | 25 | 0720 E | 0739 | | N08 | W30 | | | 1- | 3 | | .40 | .50 | | | |
| WENDEL | 25 | 0931 E | 0946 D | | N09 | W29 | | | 1- | | | | | | | |
| WENDEL | 25 | 1045 E | 1051 D | | N09 | W28 | | | 1- | | | | | | | |

# SOLAR FLARES

## NOVEMBER 1962

| OBSERVATORY | DATE NOV 1962 | OBSERVED UNIVERSAL TIME START | END | MAX. PHASE | LOCATION APPROX. LAT. | MER. DIST. | McMATH PLAGE REGION | DURATION — MINUTES | IMPORTANCE | OBS. COND. | MEASUREMENTS TIME U T | MEAS. AREA Sq. Deg. | CORR. AREA Sq. Deg. | MAX. WIDTH Ha | MAX INT. % | PROVISIONAL IONOSPHERIC EFFECT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 26 | 0145 | 0640 | NO FLARE | PATROL | | | | | | | | | | | |
| | 26 | 0910 | 1110 | NO FLARE | PATROL | | | | | | | | | | | |
| LOCKHEED | 26 | 2015 | 2036 | 2020 | N02 | E63 | | | 1- | 2 | 2020 | .50 | .80 | | 20 | |
| SAC PEAK | 26 | 2018 E | 2032 D | 2021 | N01 | E66 | | | 1- | 3 | | .83 | 1.38 | | 17 | |
| | 26 | 2210 | 2255 | NO FLARE | PATROL | | | | | | | | | | | |
| | 26 | 2315 | 2400 | NO FLARE | PATROL | | | | | | | | | | | |
| | 27 | 0000 | 0740 | NO FLARE | PATROL | | | | | | | | | | | |
| | 27 | 0810 | 0830 | NO FLARE | PATROL | | | | | | | | | | | |
| | 28 | 0205 | 0755 | NO FLARE | PATROL | | | | | | | | | | | |
| WENDEL | 28 | 0848 E | 0902 D | | N08 | W68 | | | 1- | | | | | | | |
| | 28 | 1215 | 1325 | NO FLARE | PATROL | | | | | | | | | | | |
| MCMATH | 28 | 1427 | 1435 | 1431 | N02 | E35 | 6626 | | 1- | 2 | 1431 | .20 | .20 | | | |
| | 28 | 1535 | 1545 | NO FLARE | PATROL | | | | | | | | | | | |
| | 28 | 1600 | 1605 | NO FLARE | PATROL | | | | | | | | | | | |
| | 28 | 1610 | 1645 | NO FLARE | PATROL | | | | | | | | | | | |
| SAC PEAK | 28 | 2100 E | 2112 D | 2105 | N02 | E29 | | | 1- | 3 | | 1.22 | 1.26 | | 16 | |
| | 28 | 2245 | 2250 | NO FLARE | PATROL | | | | | | | | | | | |
| | 28 | 2305 | 2320 | NO FLARE | PATROL | | | | | | | | | | | |
| | 29 | 0120 | 0135 | NO FLARE | PATROL | | | | | | | | | | | |
| | 29 | 0200 | 0310 | NO FLARE | PATROL | | | | | | | | | | | |
| | 29 | 0425 | 0435 | NO FLARE | PATROL | | | | | | | | | | | |
| | 29 | 0525 | 0805 | NO FLARE | PATROL | | | | | | | | | | | |
| | 29 | 0830 | 0850 | NO FLARE | PATROL | | | | | | | | | | | |
| | 29 | 0905 | 0950 | NO FLARE | PATROL | | | | | | | | | | | |
| | 29 | 0955 | 1115 | NO FLARE | PATROL | | | | | | | | | | | |
| | 29 | 1140 | 1145 | NO FLARE | PATROL | | | | | | | | | | | |
| | 29 | 1150 | 1200 | NO FLARE | PATROL | | | | | | | | | | | |
| | 29 | 1210 | 1220 | NO FLARE | PATROL | | | | | | | | | | | |
| | 29 | 1235 | 1240 | NO FLARE | PATROL | | | | | | | | | | | |
| | 29 | 1250 | 1255 | NO FLARE | PATROL | | | | | | | | | | | |
| | 29 | 1310 | 1325 | NO FLARE | PATROL | | | | | | | | | | | |
| MCMATH | 29 | 1407 | 1434 | | N19 | W71 | 6630 | | 1- | 2 | 1414 | .30 | 1.00 | | | |
| WENDEL | 29 | 1418 E | 1430 D | | N19 | W71 | | | 1- | | | | | | | |
| MCMATH | 29 | 1615 | 1625 | 1617 | N19 | W72 | 6630 | | 1- | 1 | 1617 | .40 | 1.20 | | | |
| MCMATH | 29 | 1705 | 1815 D | 1709 | N19 | W72 | 6630 | | 1- | 1 | 1709 | .40 | 1.20 | | | |
| MCMATH | 29 | 1846 | 1922 | 1848 | N19 | W72 | 6630 | | 1- | 1 | 1848 | .40 | 1.20 | | | |
| | 30 | 0215 | 0615 | NO FLARE | PATROL | | | | | | | | | | | |
| | 30 | 0750 | 0755 | NO FLARE | PATROL | | | | | | | | | | | |
| ATHENES | 30 | 0805 E | 0945 | | N19 | W81 | 6630 | 100 D | 2 | 4 | | .90 | 6.50 | | | |
| ARCETRI | 30 | 0820 E | 1145 D | | N22 | W82 | 6630 | 205 D | 1+ | 3 | 0950 | | | | | |
| NERA | 30 | 0945 E | 1000 | | N15 | W85 | 6630 | 15 D | 1 | 2 | | | | | | |
| ATHENES | 30 | 1036 E | 1224 D | | N19 | W84 | 6630 | 108 D | 1+ | 4 | | .70 | 4.90 | | | |
| SALTSJOBADE | 30 | 1037 E | 1130 D | | N17 | W80 | 6630 | 53 D | 1 | | 1037 | 1.50 | 9.00 | | | |
| WENDEL | 30 | 1256 | 1315 | | N18 | W86 | 6630 | 19 | 1+ | | | | 5.00 | | | |
| MCMATH | 30 | 1348 | 1430 D | | N19 | W89 | 6630 | | 1- | 2 | | | | | | |
| MCMATH | 30 | 1443 | 1506 | 1458 | N19 | W89 | 6630 | | 1- | 2 | 1458 | 1.00 | | | | |
| MCMATH | 30 | 1536 | 1620 | 1553 | N19 | W89 | 6630 | | 1- | 2 | 1553 | 1.20 | | | | |

# SOLAR FLARES

## NOVEMBER 1962

| OBSERVATORY | DATE NOV 1962 | OBSERVED UNIVERSAL TIME START | END | MAX. PHASE | LOCATION APPROX. LAT. | MER DIST. | McMATH PLAGE REGION | DURATION — MINUTES | IMPORTANCE | OBS. COND. | MEASUREMENTS TIME — U T | MEAS AREA Sq Deg | CORR. AREA Sq. Deg. | MAX WIDTH Ha | MAX INT | PROVISIONAL IONOSPHERIC EFFECT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MCMATH | 30 | 1644 | 1652 | 1648 | N19 | W89 | 6630 | | 1- | 2 | 1648 | .40 | | | | |
| MCMATH | 30 | 1757 | 1839 | 1812 | N19 | W90 | 6630 | | 1- | 2 | 1829 | 1.50 | | | | |
| MCMATH | 30 | 1757 | 1839 | 1829 | N19 | W90 | | | 1- | | | | | | | |
| LOCKHEED | 30 | 1823 | 1843 | 1831 | N18 | W90 | 6630 | 20 | 1 | 2 | 1831 | .90 | 4.50 | | 10 | |
| LOCKHEED | 30 | 1927 | 1937 | 1932 | N18 | W90 | 6630 | 10 | 1 | 1 | 1932 | .80 | 4.00 | | 20 | |
| MCMATH | 30 | 1928 | 1936 | 1931 | N19 | W90 | 6630 | | 1- | 2 | 1931 | .80 | | | | |

| | |
|---|---|
| ATHENES | ATHENS, GREECE |
| BAKOU | PIRCULI, USSR |
| CAPETOWN | ROYAL OBSERVATORY, CAPE OF GOOD HOPE |
| CAPRI F | CAPRI, ITALY (GERMAN) |
| CAPRI S | CAPRI, ITALY (SWEDISH) |
| CRIMÉE | SIMEIZ, USSR |
| HERSTMONCEU | ROYAL GREENWICH OBSERVATORY, HERSTMONCEUX, ENGLAND |
| HTE-PROVEN | HAUTE-PROVENCE |
| HONOLULU | HAWAII, USA |
| IKOMASAN | KYOTO, JAPAN |
| KIEV KO | KIEV GAO, USSR |
| KIEV KY | KIEV UNIVERSITY, USSR |
| LOCKHEED | LOS ANGELES, CALIF., USA |
| MCMATH | MCMATH-HULBERT PONTIAC, MICH., USA |
| MOSCOU | MOSCOW-GAISH, USSR |
| NEW SCHAUIN | FREIBURG, GFR |
| NERA | NEDERHORST den BERGH, NETHERLANDS |
| NIZMIR | KRASNAYA PAKHRA, USSR |
| SAC PEAK | SACRAMENTO PEAK, N.MEX. USA |
| SALTSJÖBADEN | STOCKHOLM, SWEDEN |
| SCHAUINS | SCHAUINSLAND, GFR |
| TACHKENT | TASHKENT, USSR |
| WENDEL | WENDELSTEIN, GFR |

ALL VALUES IN THE MAXIMUM INTENSITY COLUMN FOR SAC PEAK ARE ARBITRARY UNITS (0-40) AND FOR LOCKHEED ARE ARBITRARY UNITS (10-40), NOT PERCENT OF CONTINUOUS SPECTRUM.

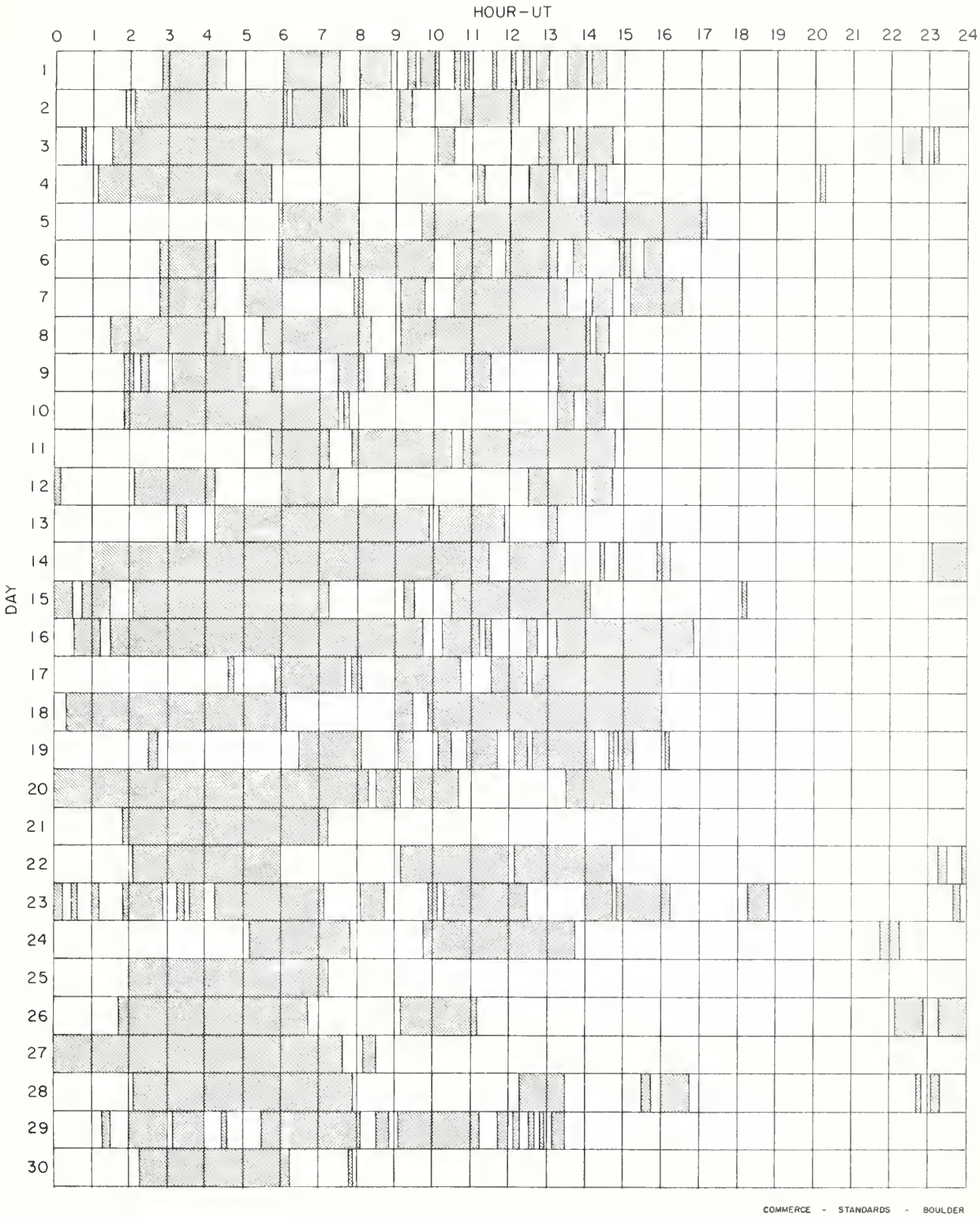
SEE DESCRIPTIVE TEXT PUBLISHED NOVEMBER 1961 FOR DEFINITION OF CORRECTED AREA VALUES LISTED FOR CLIMAX, HAWAII, LOCKHEED AND SACRAMENTO PEAK.

E = LESS THAN  D = GREATER THAN  U = APPROXIMATE  □ = NOT REPORTED.

COMMERCE - STANDARDS - BOULDER

# INTERVALS OF NO FLARE PATROL OBSERVATIONS

NOVEMBER 1962




Stations Include:

| | | | |
|---|---|---|---|
| Arcetri | Herstmonceux | Lockheed | Ondrejov |
| Athenes | Honolulu | McMath-Hulbert | Sacramento Peak |
| Capri-S (Swedish) | Ikomasan | Mitaka | Schauinsland |

# SOLAR FLARES

## AUGUST 1962

| OBSERVATORY | DATE AUG 1962 | OBSERVED UNIVERSAL TIME START | END | MAX PHASE | LOCATION APPROX. LAT. | MER DIST | McMATH PLAGE REGION | DURATION — MINUTES | IMPORTANCE | OBS COND. | MEASUREMENTS TIME U T | MEAS AREA Sq Deg | CORR AREA Sq Deg | MAX. WIDTH Ha | MAX INT | PROVISIONAL IONOSPHERIC EFFECT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ARCETRI | 03 | 0935 E | 0945 D | | N05 | E75 | 6507 | 10 D | 1 | 2 | | | | | | |
| ZURICH | 03 | 1019 E | 1045 | | S03 | W04 | 6503 | 26 D | 1 | 2 | 1019 | | 3.00 | | | |
| | 06 | 0200 | 0230 | NO FLARE | PATROL | | | | | | | | | | | |
| | 06 | 0235 | 0240 | NO FLARE | PATROL | | | | | | | | | | | |
| | 08 | 2240 | 2245 | NO FLARE | PATROL | | | | | | | | | | | |
| | 09 | 0140 | 0145 | NO FLARE | PATROL | | | | | | | | | | | |
| SCHAUINS | 09 | 1545 E | 1603 D | | N10 | W37 | 6510 | 18 D | 1 | 2 | | | 4.00 | | | |
| | 10 | 0050 | 0055 | NO FLARE | PATROL | | | | | | | | | | | |
| | 10 | 0155 | 0205 | NO FLARE | PATROL | | | | | | | | | | | |
| TACHKENT | 13 | 0416 E | 0444 D | 0419 | N05 | W02 | | | 1- | 1 | 0419 | .83 | .60 | | 65 | |
| BUCHAREST | 13 | 0709 E | 0727 D | 0720 | N07 | E02 | | | 1- | 2 | | | .60 | | | |
| CRIMEE | 13 | 0710 E | 0730 D | 0719 | N07 | E02 | | | 1- | 1 | 0719 | 1.34 | | | | |
| CAPRI-F | 13 | 0716 E | 0725 | | N08 | E03 | | | 1- | | | | 1.00 | | | |
| BAKOU | 13 | 0637 E | 0808 D | | N02 | E90 | 6516 | 91 D | 1+ | 2 | | 1.77 | | | 56 | |
| BUCHAREST | 13 | 0709 E | 0727 D | 0715 | N02 | E85 | | | 1- | 2 | | | | | | |
| CAPETOWN | 13 | 0715 | 0743 | 0723 | N03 | E88 | 6516 | 28 | 1 | | 0723 | .60 | | | | |
| ZURICH | 13 | 0718 | 0735 | | N03 | E85 | 6516 | 17 | 1 | 3 | 0718 | | 4.00 | | | |
| CAPRI-F | 13 | 0720 E | 0727 D | | N03 | E82 | 6516 | 7 D | 1+ | | | | | | | |
| ARCETRI | 13 | 0813 E | 0821 D | | N03 | E88 | 6516 | 8 D | 1 | 2 | | | | | | |
| UCCLE | 13 | 0846 | 0851 | | N12 | E54 | | | 1- | 2 | | | | | | |
| ARCETRI | 13 | 0945 E | 1010 D | | N03 | E88 | 6516 | 25 D | 1 | 2 | | | | | | |
| ZURICH | 13 | 0952 | 1030 | | N03 | E84 | 6516 | 38 | 1 | 3 | 0952 | | 4.00 | | | |
| CAPETOWN | 13 | 1227 | 1300 | 1234 | N03 | E86 | 6516 | 33 | 1 | | 1234 | .80 | | | | |
| HUANCAYO | 13 | 2033 | 2051 D | 2038 | S07 | W03 | | | 1- | 2 | 2038 | 1.20 | 1.40 | 2.30 | | |
| CLIMAX | 13 | 2038 | 2112 D | 2045 | N07 | W06 | | | 1- | | | 1.30 | 1.30 | | | Slow S-SWF |
| ALMA ATA | 14 | 0226 | 0300 | 0235 | N02 | E77 | 6516 | 34 | 1 | | 0235 | .72 | | | 58 | S-SWF |
| MITAKA | 14 | 0237 E | 0302 D | | N01 | E74 | 6516 | 25 D | 1 | 1 | 0237 | 1.13 | | 2.06 | 96 | |
| ALMA ATA | 14 | 0244 | 0310 | 0247 | N07 | W10 | 6514 | 26 | 1+ | | 0247 | 2.01 | | | 92 | |
| TACHKENT | 14 | 0247 E | 0320 | | N06 | W10 | | | 1- | 2 | | .39 | .40 | | 90 | |
| MITAKA | 14 | 0254 E | 0322 | 0259 | N06 | W08 | 6514 | 28 D | 1 | 1 | 0300 | 1.64 | 1.66 | 2.61 | 120 | |
| TACHKENT | 14 | 0456 | 0535 | 0508 | N03 | E73 | 6516 | 39 | 1+ | 2 | 0506 | 2.09 | 6.50 | 3.30 | 130 | |
| TACHKENT | 14 | 0550 | 0600 | 0553 | N03 | E73 | 6516 | 10 | 1 | 2 | 0553 | 1.05 | 3.10 | | 60 | |
| BAKOU | 14 | 0657 E | 0723 D | 0704 | N06 | W15 | 6514 | 26 D | 1+ | 1 | 0704 | 1.65 | | | 98 | |
| CAPETOWN | 14 | 0650 | 0720 | 0658 | N03 | E71 | 6516 | 30 | 1 | | 0658 | 1.20 | | | | |
| CRIMEE | 14 | 0652 E | 0658 D | 0658 | N03 | E70 | 6516 | 6 D | 1 | | | 1.79 | | | | |
| BUCHAREST | 14 | 0652 E | 0712 D | 0655 | N02 | E73 | | | 1- | 2 | | | | | | |
| CAPRI-F | 14 | 0655 E | 0715 | | N03 | E70 | 6516 | 20 D | 1+ | | | | 5.00 | | | |
| BAKOU | 14 | 0655 E | 0820 D | 0708 | N02 | E75 | 6516 | 85 D | 2 | 1 | 0708 | 3.65 | | | 71 | |
| SCHAUINS | 14 | 0700 E | 0725 | | N03 | E70 | 6516 | 25 D | 1 | 1 | | | 3.00 | | | |
| ZURICH | 14 | 0703 E | 0721 | | N03 | E70 | 6516 | 18 D | 1 | 2 | 0703 | | 2.00 | | | |
| BUCHAREST | 14 | 0740 E | 0743 D | | N02 | E73 | | | 1- | 2 | | | | | | |
| BAKOU | 14 | 0824 E | 0936 D | 0842 | N03 | E75 | 6516 | 72 D | 1 | 1 | 0842 | 1.83 | | | 58 | |
| CAPRI-F | 14 | 0826 E | 0838 | | N02 | E69 | 6516 | 12 D | 1 | | | | 2.00 | | | |
| ZURICH | 14 | 0826 | 1035 | | N03 | E69 | 6516 | 129 | 1 | 2 | 0826 | | 4.00 | | | |
| NIZMIR | 14 | 0827 | 0841 | 0830 | N02 | E71 | 6516 | 14 | 1 | | | .46 | | .90 | | |

# SOLAR FLARES

## AUGUST 1962

| OBSERVATORY | DATE AUG 1962 | OBSERVED UNIVERSAL TIME START | END | MAX PHASE | LOCATION APPROX. LAT. | MER. DIST | McMATH PLAGE REGION | DURATION — MINUTES | IMPORTANCE | OBS. COND. | MEASUREMENTS TIME U T | MEAS. AREA Sq Deg. | CORR. AREA Sq Deg. | MAX WIDTH Hα | MAX INT | PROVISIONAL IONOSPHERIC EFFECT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CAPETOWN | 14 | 0827 | 0846 | 0832 | N03 | E71 | 6516 | 19 | 1 | | 0832 | 1.00 | | | | |
| SCHAUINS | 14 | 0833 E | 0836 | | N03 | E68 | | | 1- | 1 | | | 2.00 | | | |
| ARCETRI | 14 | 0838 E | 0911 D | | N03 | E72 | 6516 | 33 D | 1 | 2 | | | | | | |
| NIZMIR | 14 | 0924 | 0945 | 0926 | N02 | E71 | 6516 | 21 | 1 | | | .93 | | 1.10 | | |
| SCHAUINS | 14 | 0925 E | 0941 | | N03 | E67 | 6516 | 16 D | 1 | 1 | | | 3.00 | | | |
| BAKOU | 14 | 0856 E | 0942 D | 0902 | N05 | W15 | 6514 | 46 D | 1 | 1 | 0902 | 1.44 | | | 52 | |
| BAKOU | 14 | 0928 E | 1002 D | 0935 | N08 | W16 | 6514 | 34 D | 1 | 1 | 0935 | 1.09 | | | 65 | |
| ARCETRI | 14 | 0951 E | 1004 D | | N03 | E72 | 6516 | 13 D | 1 | 2 | | | | | | |
| CAPETOWN | 14 | 0953 | 1025 | 0957 | N03 | E71 | 6516 | 32 | 1 | | 0957 | 1.40 | | | | |
| CAPRI-F | 14 | 1107 E | 1124 | | N08 | W12 | | | 1- | | | | 2.00 | | | |
| CAPETOWN | 14 | 1107 | 1132 | 1110 | N08 | W14 | | | 1- | | 1110 | 1.60 | 1.60 | | | |
| KHARKOV | 14 | 1110 | 1145 | | N07 | W13 | 6514 | 35 | 1 | 3 | 1113 | 1.06 | 1.70 | 1.60 | | |
| CAPRI-F | 14 | 1202 E | 1245 | | N02 | E68 | 6516 | 43 D | 1+ | | | | 5.00 | | | |
| CAPETOWN | 14 | 1204 | 1250 | 1222 | N03 | E68 | 6516 | 46 | 1+ | | 1222 | 1.80 | 5.30 | | | S-SWF |
| SCHAUINS | 14 | 1215 E | 1255 | | N03 | E66 | 6516 | 40 D | 1+ | 2 | | | 4.00 | | | |
| CLIMAX | 14 | 1255 E | 1333 | | N01 | W67 | | | 1- | | 1302 | .90 | 1.50 | | | |
| CLIMAX | 14 | 1336 | 1356 | 1347 | N08 | W17 | | | 1- | | | .60 | .60 | | | |
| VOROSHILOV | 14 | 2300 | 2318 | 2301 | N06 | W22 | | | 1- | | | 1.43 | | | 93 | |
| | 15 | 0200 | 0210 | NO FLARE | PATROL | | | | | | | | | | | |
| ZURICH | 15 | 0858 | 0905 | | N07 | W25 | 6514 | 7 | 1 | 2 | 0858 | | 2.00 | | | |
| NIZMIR | 15 | 0858 E | 0905 D | 0903 | N07 | W25 | 6514 | 7 D | 1 | | 0854 | .93 | | 1.20 | | |
| BAKOU | 15 | 0901 E | 0912 D | 0903 | N06 | W25 | 6514 | 11 D | 1 | 2 | 0903 | .91 | | | 64 | |
| BAKOU | 15 | 0945 E | 1020 D | 1016 | N05 | W55 | 6514 | 35 D | 1+ | 2 | 1016 | 2.10 | | | 80 | |
| BAKOU | 15 | 0959 E | 1012 D | 1002 | N07 | W28 | 6514 | 13 D | 1 | 2 | 1002 | 1.37 | | | 60 | |
| ZURICH | 15 | 1010 | 1017 | | N01 | E55 | 6516 | 7 | 1 | 2 | 1010 | | 3.00 | | | |
| CAPETOWN | 15 | 1012 | 1018 | 1013 | N03 | E56 | | | 1- | | 1013 | 1.10 | 2.00 | | | |
| CLIMAX | 15 | 1703 | 1726 | 1708 | N08 | W30 | | | 1- | | | .90 | .90 | | | |
| OTTAWA | 15 | 1706 | 1739 | 1712 | N09 | W30 | | | 1- | | | 1.20 | 1.20 | | | |
| OTTAWA | 15 | 1808 | 1842 | 1819 | N05 | W34 | | | 1- | | | .70 | .70 | | | |
| CLIMAX | 15 | 2227 | 2243 | 2232 | N06 | W36 | | | 1- | | | .70 | .80 | | | |
| IKOMASAN | 15 | 2307 E | 2311 D | | N06 | W34 | 6514 | 4 D | 1 | | 2309 | .62 | | | 100 | |
| AROSA | 16 | 0541 | 0545 | | N06 | W37 | 6514 | 4 | 1 | | | | | | | |
| BUCHAREST | 16 | 0618 E | 0800 D | 0708 | N02 | E45 | | | 1- | 2 | | | 2.30 | | | |
| BUCHAREST | 16 | 0733 E | 0739 D | | N06 | E36 | | | 1- | 2 | | | .70 | | | |
| CAPETOWN | 16 | 1019 | 1040 | 1024 | N08 | W42 | | | 1- | | 1024 | .90 | 1.20 | | | |
| UCCLE | 16 | 1227 E | 1231 D | | N00 | E43 | | | 1- | 3 | | | | | | |
| UCCLE | 16 | 1227 E | 1231 D | | N07 | W45 | | | 1- | 3 | | | | | | |
| ZURICH | 16 | 1323 E | 1330 | | N01 | E41 | 6516 | 7 D | 1 | 2 | 1323 | | 3.00 | | | |
| OTTAWA | 16 | 1335 E | 1354 | 1345 | N05 | W42 | | | 1- | | | .40 | .40 | | | |
| KIEVKO | 16 | 1337 E | 1350 D | 1344 | N06 | W43 | | | 1- | | 1344 | .88 | | | 51 | |
| CLIMAX | 16 | 1433 | 1450 | 1442 | N08 | W41 | | | 1- | | | .20 | .20 | | | |
| ZURICH | 16 | 1435 | 1452 | | N06 | W42 | 6514 | 17 | 1 | 2 | 1435 | | 1.00 | | | |
| CLIMAX | 17 | 1707 | 1749 | 1722 | N05 | W60 | | | 1- | | | .30 | .50 | | | |
| ZURICH | 17 | 1710 E | 1720 D | | N05 | W58 | 6514 | 10 D | 1 | 2 | 1710 | | 3.00 | | | |
| IKOMASAN | 18 | 0024 | 0032 D | | N05 | W58 | | | 1- | | 0025 | .62 | | | 85 | |
| CAPRI-F | 18 | 1017 E | 1045 | | N02 | E17 | 6516 | 28 D | 1 | | | | 3.00 | | | |
| UCCLE | 18 | 1041 E | 1055 D | | N02 | E13 | | | 1- | 2 | | | | | | |

# SOLAR FLARES

## AUGUST 1962

| OBSERVATORY | DATE AUG 1962 | OBSERVED UNIVERSAL TIME START | OBSERVED UNIVERSAL TIME END | OBSERVED UNIVERSAL TIME MAX PHASE | LOCATION APPROX LAT | LOCATION APPROX MER DIST | LOCATION McMATH PLAGE REGION | DURATION — MINUTES | IMPORTANCE | OBS COND. | MEASUREMENTS TIME U T | MEASUREMENTS MEAS AREA Sq Deg | MEASUREMENTS CORR AREA Sq Deg | MEASUREMENTS MAX WIDTH Ha | MEASUREMENTS MAX INT | PROVISIONAL IONOSPHERIC EFFECT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CAPRI-F | 18 | 1100 E | 1108 | | N06 | w64 | 6514 | 8 D | 1 | | | | 2.00 | | | |
| CAPRI-F | 19 | 0701 E | 0705 D | | N07 | W90 | 6514 | 4 D | 1 | | | | | | | |
| CAPRI-F | 19 | 0701 E | 0725 D | | N03 | E17 | | | 1- | | | | 1.00 | | | |
| ABASTUMANI | 19 | 0714 E | 0722 D | 0718 | N03 | E15 | | | 1- | 2 | | 1.53 | 1.62 | | | |
| BUCHAREST | 19 | 0720 E | 0801 D | | N00 | E16 | | | 1- | 3 | | | .50 | | | |
| BUCHAREST | 19 | 0832 E | 0910 D | 0854 | N00 | E14 | | | 1- | 3 | | | 1.70 | | | |
| CRIMEE | 19 | 0846 E | 0911 D | 0855 | N02 | E15 | 6522 | 25 D | 1 | 1 | 0855 | 1.34 | | | | |
| CAPETOWN | 19 | 0849 | 0905 | 0854 | N03 | E14 | | | 1- | | 0854 | 1.00 | 1.00 | | | |
| SCHAUINS | 19 | 0853 E | 0901 | | N02 | E12 | | | 1- | 2 | | | 2.00 | | | |
| NIZMIR | 19 | 0858 E | 0900 D | 0900 | N00 | E11 | 6522 | 2 D | 1 | | | 1.70 | | .65 | | |
| NIZMIR | 19 | 0945 E | 0948 D | 0946 | N00 | E11 | 6522 | 3 D | 1 | | | 1.80 | | .50 | | |
| CAPETOWN | 19 | 0945 | 0957 | 0947 | N03 | E14 | | | 1- | | 0947 | 1.00 | 1.00 | | | |
| SCHAUINS | 19 | 0947 E | 0951 | | N02 | E14 | | | 1- | 1 | | | 2.00 | | | |
| CAPRI-F | 19 | 1000 E | 1017 D | | N03 | E17 | 6522 | 17 D | 1 | | | | 2.00 | | | |
| UCCLE | 19 | 1043 E | 1055 D | | N02 | E10 | 6522 | 12 D | 1 | 3 | | | | | | |
| UCCLE | 19 | 1043 E | 1055 D | | N08 | E75 | | | 1- | 3 | | | | | | |
| CAPRI-F | 19 | 1129 E | 1133 | | N07 | W90 | 6514 | 4 D | 1 | | | | | | | S-SWF |
| SCHAUINS | 19 | 1700 E | 1703 | | N01 | E08 | 6522 | 3 D | 1 | 1 | | | 3.00 | | | S-SWF |
| | 20 | 0155 | 0200 | NO FLARE | PATROL | | | | | | | | | | | |
| ABASTUMANI | 20 | 0544 E | 0623 D | 0557 | N03 | E02 | 6522 | 39 D | 1+ | 1 | | 5.40 | 5.50 | | | |
| BUCHAREST | 20 | 0604 E | 0630 D | | N02 | E02 | | | 1- | 2 | | | 2.20 | | | |
| UCCLE | 20 | 0827 E | 0847 D | | N02 | E02 | 6522 | 20 D | 1 | 3 | | | | | | |
| UCCLE | 20 | 0938 E | 1132 D | | N02 | E02 | 6522 | 114 D | 1 | 3 | | | | | | |
| | 21 | 0215 | 0220 | NO FLARE | PATROL | | | | | | | | | | | |
| | 21 | 0250 | 0300 | NO FLARE | PATROL | | | | | | | | | | | |
| BUCHAREST | 21 | 0605 E | | | N09 | E50 | | | 1- | 2 | | | 1.70 | | | |
| | 21 | 1030 | 1050 | NO FLARE | PATROL | | | | | | | | | | | |
| CAPRI-F | 21 | 1545 E | | | N02 | W26 | | | 1- | | | | 1.00 | | | |
| | 22 | 0255 | 0300 | NO FLARE | PATROL | | | | | | | | | | | |
| OTTAWA | 22 | 1419 | 1500 | 1436 | N02 | W32 | | | 1- | | | 1.10 | 1.10 | | | |
| HUANCAYO | 22 | 1423 E | 1504 | 1430 | S01 | W29 | 6522 | 41 D | 1 | 2 | 1435 | 4.20 | 4.20 | | | |
| ZURICH | 22 | 1427 E | 1452 | | N03 | W28 | 6522 | 25 D | 1 | 3 | 1427 | | 4.00 | | | |
| LOCARNO | 22 | 1430 E | 1500 | | N03 | W29 | 6522 | 30 D | 1+ | 2 | | | | | | |
| UCCLE | 22 | 1518 E | 1541 D | | N10 | E30 | 6525 | 23 D | 1 | 3 | | | | | | |
| UCCLE | 22 | 1518 E | 1541 D | | N03 | W32 | 6522 | 23 D | 1 | 3 | | | | | | |
| | 23 | 0205 | 0225 | NO FLARE | PATROL | | | | | | | | | | | |
| CAPRI-F | 23 | 1254 E | 1318 | | S12 | W60 | 6529 | 24 D | 1 | | | | 2.00 | | | |
| CAPRI-F | 23 | 1326 E | 1350 | | S12 | W62 | | | 1- | | | | 1.00 | | | |
| CAPRI-F | 23 | 1450 E | 1520 D | | S12 | W63 | | | 1- | | | | 1.00 | | | |
| TACHKENT | 24 | 0328 | 0347 | 0339 | S15 | W78 | 6529 | 19 | 1 | 2 | 0342 | 1.05 | 4.80 | 3.70 | 55 | |
| TACHKENT | 24 | 0420 | 0426 | 0422 | S15 | W78 | | | 1- | 2 | 0420 | .81 | 3.50 | 2.00 | 70 | |
| BUCHAREST | 24 | 0605 E | 0633 D | | S12 | E75 | | | 1- | 2 | | | | | | |
| UCCLE | 24 | 1435 E | 1453 | | N03 | W60 | | | 1- | 3 | | | | | | |
| UCCLE | 24 | 1444 | 1453 | | N12 | W88 | | | 1- | 3 | | | | | | |
| CLIMAX | 24 | 2128 | 2158 | 2140 | S10 | E90 | | | 1- | | | .40 | 2.00 | | | |

# SOLAR FLARES

## AUGUST 1962

| OBSERVATORY | DATE AUG 1962 | OBSERVED UNIVERSAL TIME | | | LOCATION | | | DURATION — MINUTES | IMPORTANCE | OBS. COND. | MEASUREMENTS | | | | | PROVISIONAL IONOSPHERIC EFFECT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | START | END | MAX. PHASE | APPROX LAT. | APPROX MER DIST | McMATH PLAGE REGION | | | | TIME U T | MEAS AREA Sq Deg. | CORR AREA Sq. Deg | MAX WIDTH Ha | MAX. INT °. | |
| HUANCAYO | 24 | 2130 | 2155 | 2133 | S12 | W90 | | | 1- | 2 | | | | 2.40 | | |
| | 25 | 0245 | 0250 | NO FLARE | PATROL | | | | | | | | | | | |
| | 25 | 0455 | 0515 | NO FLARE | PATROL | | | | | | | | | | | |
| BUCHAREST | 25 | 0614 E | 0726 D | | N03 | E67 | | | 1- | 2 | | | | | | |
| BUCHAREST | 25 | 0715 E | 0726 D | | N12 | E05 | | | 1- | 2 | | | .50 | | | |
| CAPRI-F | 25 | 0915 E | 0920 | | S12 | W90 | 6529 | 5 D | 1 | | | | | | | |
| CAPRI-F | 25 | 0937 E | 1000 | | S12 | W90 | 6529 | 23 D | 1 | | | | | | | |
| | 26 | 0200 | 0255 | NO FLARE | PATROL | | | | | | | | | | | |
| MITAKA | 27 | 0144 | 0148 | | N09 | E56 | 6535 | 4 | 1 | 1 | 0146 | 1.03 | 1.94 | 1.43 | 96 | |
| CAPRI-F | 27 | 0900 E | 0908 | | S06 | E82 | | | 1- | | | | | | | |
| IKOMASAN | 28 | 2252 | 2257 D | | N08 | E53 | | | 1- | | 2252 | .62 | | | 80 | |
| | 30 | 0205 | 0225 | NO FLARE | PATROL | | | | | | | | | | | |
| UCCLE | 30 | 1652 | 1704 D | | S08 | E40 | | | 1- | 3 | | | | | | |
| | 31 | 0240 | 0300 | NO FLARE | PATROL | | | | | | | | | | | |
| SCHAUINS | 31 | 0635 E | 0645 D | | N08 | E33 | | | 1- | 2 | | | 2.00 | | | |
| CAPRI-F | 31 | 0948 E | 1015 | | N10 | E27 | 6542 | 27 D | 1+ | | | | 5.00 | | | |
| SCHAUINS | 31 | 1110 E | 1124 D | | N08 | E31 | | | 1- | 2 | | | 2.00 | | | |
| CAPRI-F | 31 | 1112 E | 1140 | | N06 | E34 | 6542 | 28 D | 1 | | | | 2.00 | | | |
| AROSA | 31 | 1115 E | 1130 D | | N08 | E33 | 6542 | 15 D | 1 | | | | | | | |
| LOCARNO | 31 | 1118 | 1130 D | | N09 | E35 | 6525 | 12 D | 1 | 2 | | | | | | |

# SOLAR FLARES
## AUGUST 1962

These flare reports are addenda to the August 1962 flares published in CRPL-F 217B September 1962.

| | | | | | |
|---|---|---|---|---|---|
| ATHENES | ATHENS, GREECE | HONOLULU | HAWAII, USA | NERA | NEDERHORST den BERGH, NETHERLANDS |
| BAKOU | PIRCULI, USSR | IKOMASAN | KYOTO, JAPAN | | |
| CAPETOWN | ROYAL OBSERVATORY, CAPE OF GOOD HOPE | KIEV KO | KIEV GAO, USSR | NIZMIR | KRASNAYA PAKHRA, USSR |
| | | KIEV KY | KIEV UNIVERSITY, USSR | SAC PEAK | SACRAMENTO PEAK, N.MEX. USA |
| CAPRI F | CAPRI, ITALY (GERMAN) | LOCKHEED | LOS ANGELES, CALIF., USA | SALTSJÖBADEN | STOCKHOLM, SWEDEN |
| CAPRI S | CAPRI, ITALY (SWEDISH) | MCMATH | MCMATH-HULBERT PONTIAC, MICH., USA | SCHAUINS | SCHAUINSLAND, GFR |
| CRIMÉE | SIMEIZ, USSR | | | TACHKENT | TASHKENT, USSR |
| HERSTMONCEU | ROYAL GREENWICH OBSERVATORY, HERSTMONCEUX, ENGLAND | MOSCOU | MOSCOW-GAISH, USSR | WENDEL | WENDELSTEIN, GFR |

ALL VALUES IN THE MAXIMUM INTENSITY COLUMN FOR SAC PEAK ARE ARBITRARY UNITS (0-40) AND FOR LOCKHEED ARE ARBITRARY UNITS (10-40), NOT PERCENT OF CONTINUOUS SPECTRUM.

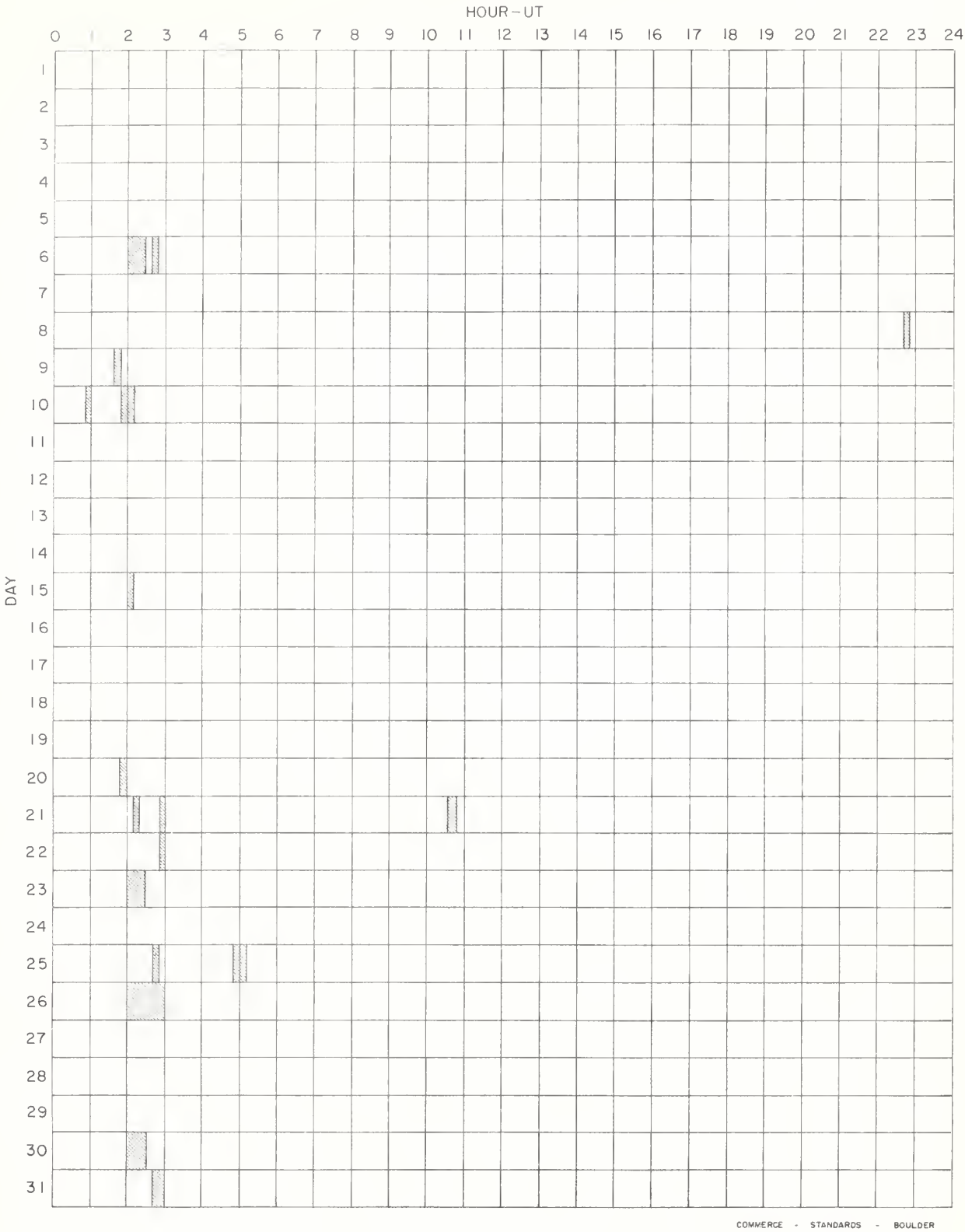
SEE DESCRIPTIVE TEXT PUBLISHED NOVEMBER 1961 FOR DEFINITION OF CORRECTED AREA VALUES LISTED FOR CLIMAX, HAWAII, LOCKHEED AND SACRAMENTO PEAK.

E = LESS THAN  D = GREATER THAN  U = APPROXIMATE  □ = NOT REPORTED.

# INTERVALS OF NO FLARE PATROL OBSERVATIONS

IIIn

AUGUST 1962




Stations Include:

| | | | | | |
|---|---|---|---|---|---|
| Abastumani | Capetown | Honolulu | Kiev KO | Nizamiah | Schaiunsland |
| Alma-Ata | Capri-G (German) | Huancayo | Kodaikanal | Nizmir | Tachkent |
| Arcetri | Capri-S (Swedish) | Ikomasan | Lockheed | Ondrejov | Uccle |
| Athenes | Climax | Istanbul | McMath-Hulbert | Ottawa | Voroshilov |
| Bakou | Crimée | Kharkov | Mitaka | Sacramento Peak | Wendelstein |
| Bucharest | Herstmonceux | | | | |

# IONOSPHERIC EFFECTS OF SOLAR FLARES

## SHORT WAVE RADIO FADEOUTS
## SUDDEN COSMIC NOISE ABSORPTION
## SUDDEN ENHANCEMENTS OF ATMOSPHERICS
## SUDDEN PHASE ANOMALIES
## SOLAR NOISE BURSTS AT 18 Mc

OCTOBER 1962

| OCTOBER 1962 | UNIVERSAL TIME | | | SWF TYPE IMP | IMPORTANCE | | | | | WIDE SPREAD INDEX | STATIONS | KNOWN FLARE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | START | END | MAX | | ABS | SCNA | SEA | SPA | BUR | | | |
| 11 | 1822 | 1826 | | | | | | | 1 | 5 | BO HA | |
| 12 | 2247 | 2249 | | | | | | | 1 | 5 | HA MA | |
| 13 | 1741 | 1743 | | | | | | | 1 | 5 | BO HA | |
| 13 | 1808 | 1810 | | | | | | | 1 | 5 | BO HA | |
| 13 | 1923 | 1925 | | | | | | | 1 | 5 | BO HA | |
| 13 | 2031 | 2034 | | | | | | | 1 | 5 | BO MA | |
| 15 | 2013 | 2015 | | | | | | | 1- | 5 | HA MA | |
| 16 | 2031 | 2034 | | | | | | | 1 | 5 | BO HA | |
| 19 | 2035 | 2039 | | | | | | | 1- | 5 | BO HA | |
| 27 | 2211 | 2214 | | | | | | | 1 | 5 | HA MA | |
| 28 | 1955 | 1957 | | | | | | | 1 | 5 | BO HA | |
| 28 | 2043 | 2045 | | | | | | | 1 | 5 | BO HA | |
| 29 | 2021 | 2025 | | | | | | | 1 | 5 | BO HA | |

# SOLAR RADIO EMISSION
## OUTSTANDING OCCURRENCES

NOVEMBER 1962

ARO - OTTAWA

2800 Mc.

| Nov. 1962 | Type | Start UT | Duration Hrs:Mins | Maximum | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | Time UT | Peak Flux | Mean Flux | |
| 19 | 3 Simple 3 f | 1403 | 2 00 | 1445 | 4 | 2.5 | |
| 22 | - Record Incomplete | 2105 | >35 | Indet. | >150 | - | |
| 30 | 3 Simple 3 | 1830 | 1 48 | 1918 | 3 | 1.5 | |

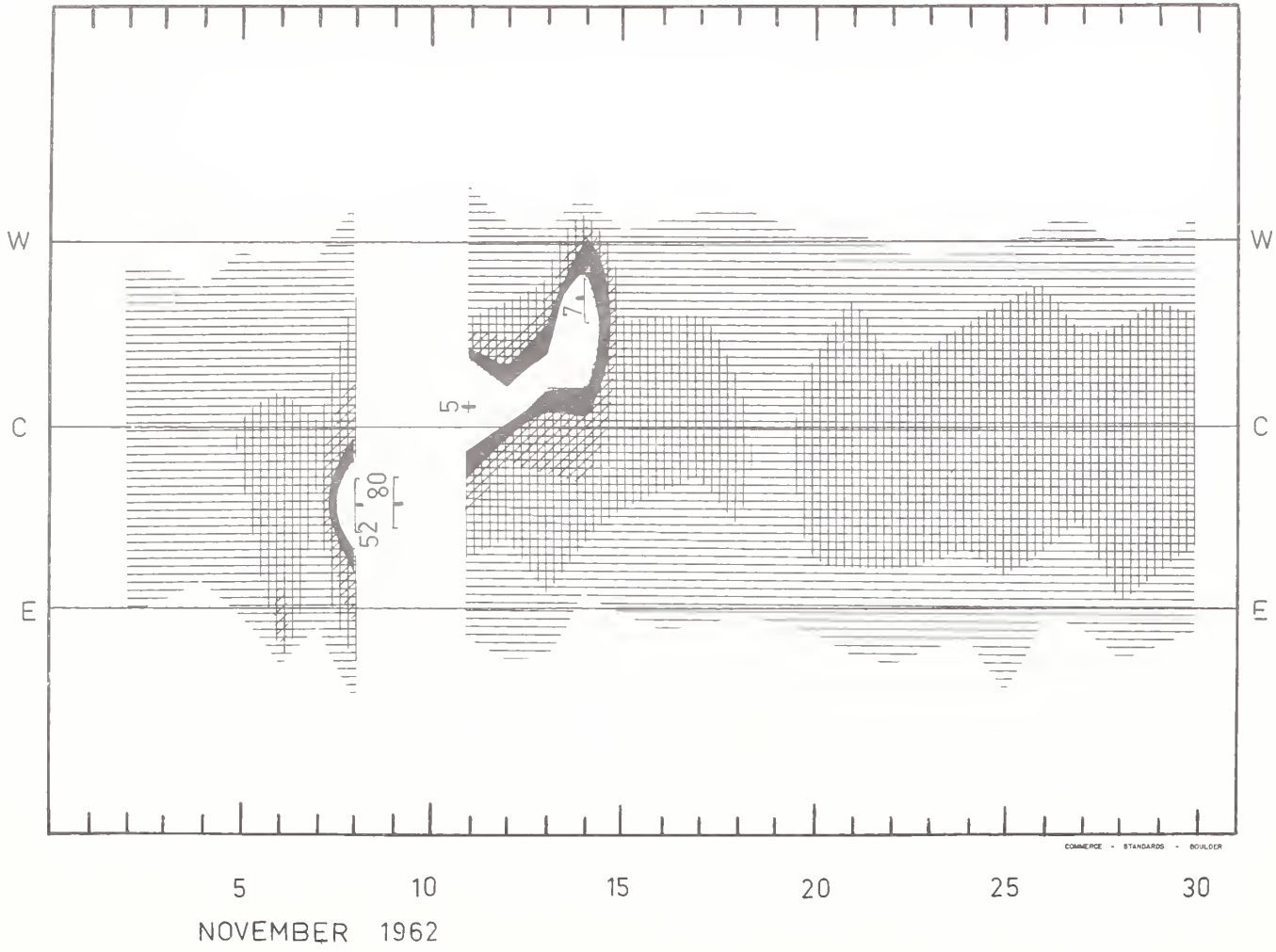
COMMERCE - STANDARDS - BOULDER

# SOLAR RADIO EMISSION
# INTERFEROMETRIC OBSERVATIONS

NOVEMBER 1962

Nançay

169 Mc



# SOLAR RADIO EMISSION

## OUTSTANDING OCCURRENCES

### NOVEMBER 1962

BOULDER

**108 Mc.**

| Nov. 1962 | Type | Start UT | Time of Maximum UT | Duration Minutes | Intensity |
|---|---|---|---|---|---|
| 7 | 2 | 2044 | 2058 | 29 | 1 |
| 10 | 3 | 2102.5 | 2102.9 | 1.0 | 2 |
| 10 | 3 | 2115.1 | 2116.2 | 1.2 | 2 |
| 10 | 3 | 2306.5 | 2306.6 | 0.5 | 3 |
| 11 | 3 | 1926.3 | 1927.1 | 2.7 | 2 |
| 11 | 3 | 1931.0 | 1932.0 | 2.0 | 2 |
| 11 | 7 | 2100 | 2128 | 109 | 2 |
| 14 | 6 | 1349 E | 1443 | 191 D | 2 |

COMMERCE - STANDARDS - BOULDER

# NOMINAL TIMES OF OBSERVATION

## OUTSTANDING OCCURRENCES

### NOVEMBER 1962

BOULDER

**108 Mc.**

| Nov. 1962 | U.T. | | Nov. 1962 | U.T. |
|---|---|---|---|---|
| 1 | 1334-2240 | | 16 | 1351-2328 |
| 2 | 1335-2342 | I 1408-1428 | 17 | 1352-2327 |
| 3 | 1336-2341 | | 18 | 1353-2327 |
| 4 | 1337-2340 | | 19 | 1355-2326 |
| 5 | 1338-2338 | | 20 | 1356-2325 |
| 6 | 1340-2337 | | 21 | 1357-2325 |
| 7 | 1341-2336 | | 22 | 1358-2324 |
| 8 | 1342-2335 | | 23 | 1359-2324 |
| 9 | 1343-2334 | | 24 | 1400-2323 |
| 10 | 1344-2333 | | 25 | 1401-2323 |
| 11 | 1345-2333 | | 26 | 1402-2322 |
| 12 | 1346-2332 | | 27 | 1403-2322 |
| 13 | 1348-2331 | | 28 | 1404-2321 |
| 14 | 1349-2330 | | 29 | 1405-2321 |
| 15 | 1350-2329 | | 30 | 1406-2321 |

COMMERCE - STANDARDS - BOULDER

# SOLAR RADIO EMISSION
# SPECTRUM OBSERVATIONS

NOVEMBER 1962

## HAO BOULDER

**7.6 - 41 Mc.**

| Date 1962 | Bursts | | | Frequency Range (mc) | Date 1962 | Bursts | | | Frequency Range (mc) |
|---|---|---|---|---|---|---|---|---|---|
| | Type | Time (U.T.) | Intensity | | | Type | Time (U.T.) | Intensity | |
| 1 Nov | III | 1354.45-1355.15 | 1 | 27-41 | 13 Nov | III | 1610.15-1610.45 | 1- | 23-41 |
| | III | 1833.45-1834.15 | 1 | 24-39 | | III | 1629-1629.30 | 1- | 24-40 |
| | III | 1853-1854.15 | 1 | 21-41 | | III | 1643-1643.30 | 1- | 24-34 |
| | III | 1930.15-1930.30 | 1- | 24-39 | | III | 1652.30-1653 | 1- | 23-35 |
| | III | 1957.45-1958.30 | 1- | 23-41 | | III | 1654.30-1654.45 | 1- | 24-34 |
| 7 | III | 1942-1943 | 1+ | 16-41 | | III | 1717-1717.15 | 1- | 23-40 |
| | III | 2016-2016.30 | 1 | 23-41 | | III | 1723.30-1723.45 | 1- | 23-35 |
| | III | 2210.15-2210.45 | 1- | 26-41 | | III | 2056.15-2057.45 | 2 | 16-41 |
| | III | 2219.15-2219.45 | 1 | 21-41 | | III | 2114.45-2115 | 1- | 21-41 |
| | continuum | 2220-2255 | 1- | 28-41 | 14 | III | 1339.45-1340.45 | 1- | 25-41 |
| | III | 2229.30-2229.45 | 1 | 25-41 | | III | 1341-1341.30 | 1 | 23-41 |
| 8 | III | 1702-1702.30 | 1 | 27-36 | | continuum | 1406-1500 | 1 | 24-41 |
| | III | 1713.15-1713.45 | 1 | 21-41 | | continuum | 1500-1615 | 1- | 25-41 |
| | III | 1721.15-1721.30 | 1- | 22-41 | | III | 2130.30-2130.45 | 1- | 23-41 |
| | III | d 1932.30-1933.30 | 1 | 23-41 | 15 | III | 1409-1409.15 | 1- | 25-40 |
| | III | 2010-2010.30 | 1- | 28-39 | | III | 1550-1550.15 | 1- | 30-41 |
| | III | 2015.15-2015.30 | 1- | 24-41 | | III | 1842.30-1843 | 1 | 21-41 |
| 9 | III | 1557.30-1557.45 | 1 | 23-41 | | III | 1844.15-1844.30 | 1- | 22-38 |
| | III | 1815-1815.15 | 1- | 22-38 | | III | 1848-1848.15 | 1 | 22-41 |
| | III | 2135.45-2136.15 | 1 | 22-40 | | III | 1849.30-1850 | 1 | 22-41 |
| | III | 2145.30-2145.45 | 1- | 23-41 | | III | 2021.15-2021.30 | 1 | 21-41 |
| | III | 2230.15-2230.45 | 1- | 23-41 | 16 | III | 1755.30-1756.15 | 1- | 22-41 |
| 10 | III | 1622-1622.30 | 1 | 23-41 | | III | 1840.30-1840.45 | 1 | 24-41 |
| | III | 2103-2103.30 | 2 | 16-41 | | III | 1907-1907.15 | 1- | 25-41 |
| | III | 2105.30-2105.45 | 1 | 22-39 | | III | 2020.30-2020.45 | 1- | 23-41 |
| | III | 2106-2107 | 1+ | 16-41 | 17 | III | 1417-1417.30 | 1- | 33-41 |
| | III | 2116.30-2117 | 2 | 16-41 | | III | 1551.45-1552.30 | 1 | 26-41 |
| | III | 2121-2121.30 | 1 | 21-41 | | III | 2124.30-2125 | 1 | 31-41 |
| | III | 2251.15-2251.45 | 1 | 26-41 | 18 | III | 2124-2124.45 | 1 | 24-41 |
| | III | 2306.45-2307.30 | 1+ | 23-41 | 19 | III | 1758-1758.15 | 1- | 28-41 |
| 11 | continuum | 1910-1925 | 1- | 27-41 | | III | 2028-2028.30 | 1- | 29-39 |
| | continuum | 2059-2230 | 1- | 23-41 | 24 | III | 2222-2223 | 2 | 19-41 |
| 12 | III | 2142.15-2143 | 1 | 24-41 | 30 | III | 1958.45-1959.15 | 1- | 22-41 |
| | III | 2256.15-2.56.30 | 1- | 27-36 | | III | 2158.45-2159.15 | 1- | 22-41 |
| 13 | III | 1545.30-1545.45 | 1- | 23-39 | | | | | |

d = harmonic structure

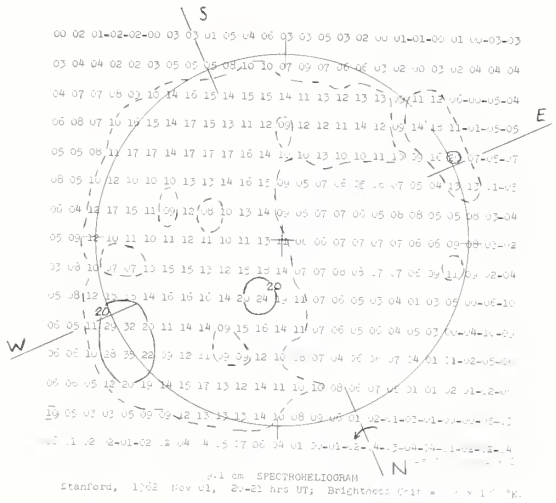
COMMERCE - STANDARDS - BOULDER

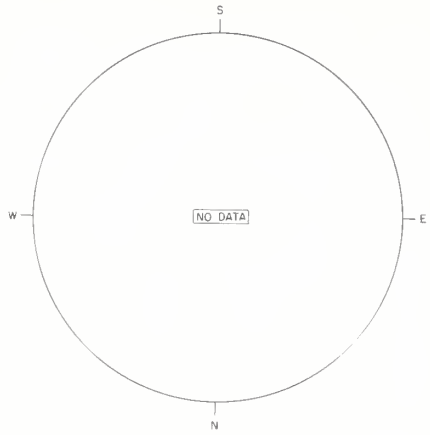
# SOLAR RADIO EMISSION SPECTROHELIOGRAMS

NOVEMBER 1962

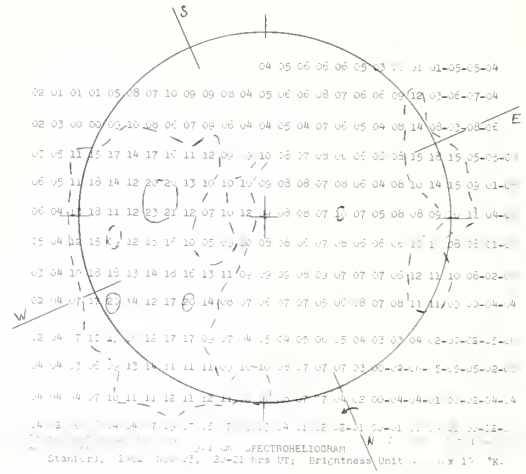
## STANFORD

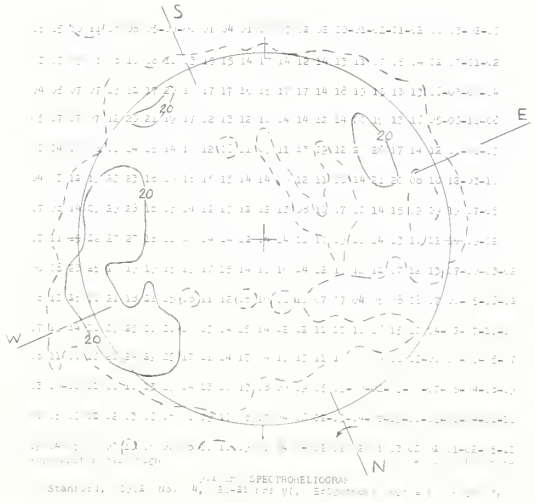
9.1 cm

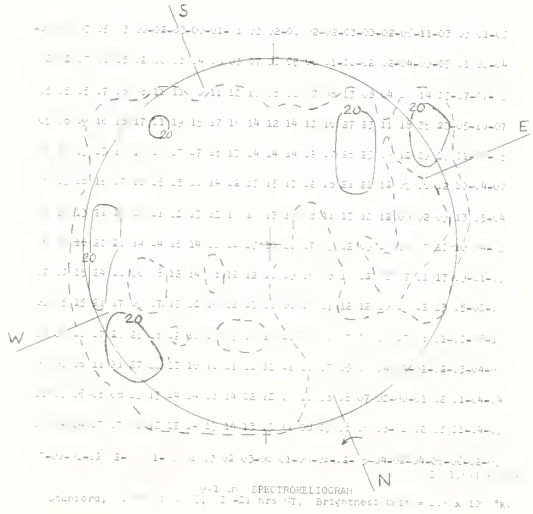


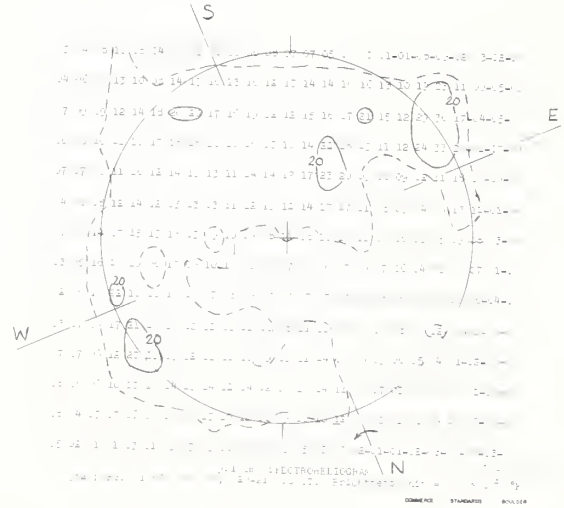




1962 NOVEMBER 02



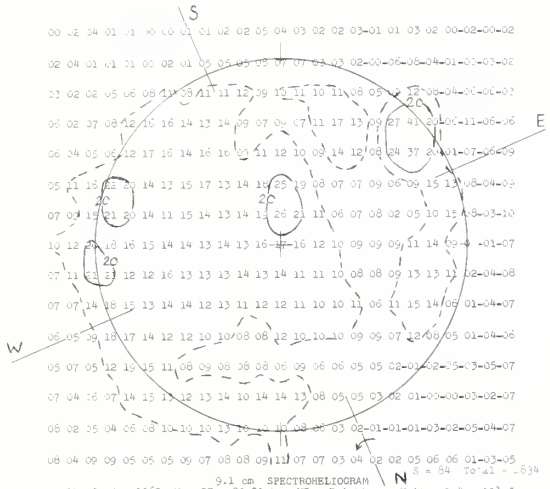

IVc

# SOLAR RADIO EMISSION SPECTROHELIOGRAMS

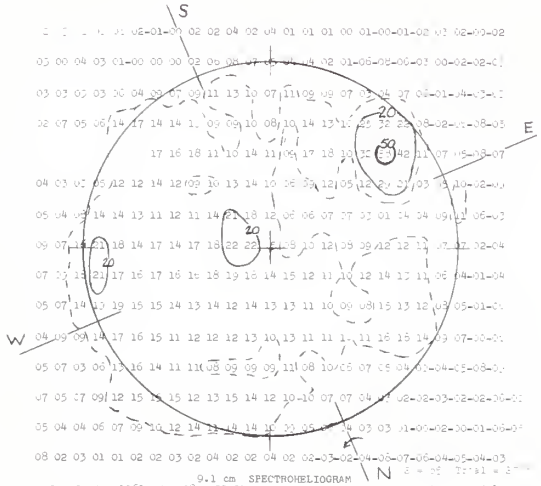
## NOVEMBER 1962

STANFORD

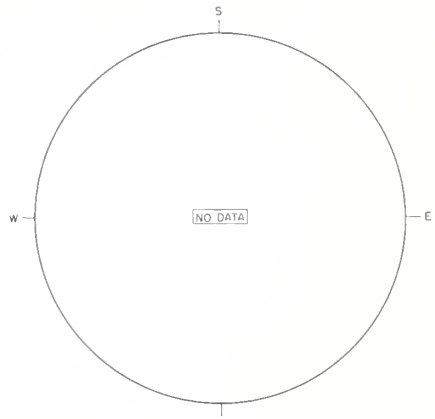
9.1 cm



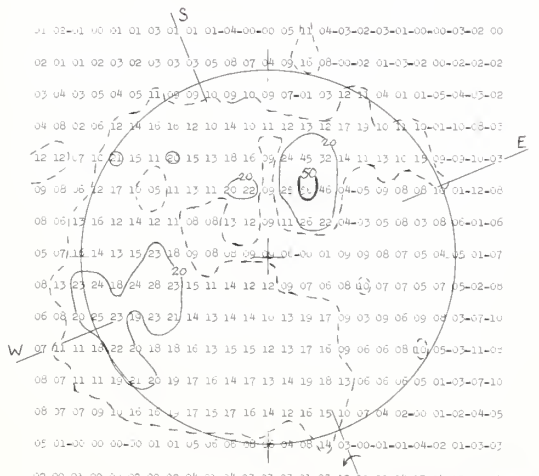

9.1 cm SPECTROHELIOGRAM
Stanford, 1962 Nov 07, 20-21 hrs UT; Brightness Unit = 2.4 x $10^3$ °K.



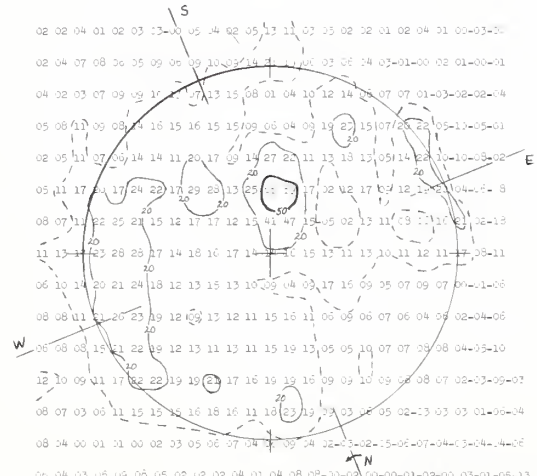

9.1 cm SPECTROHELIOGRAM
Stanford, 1962 Nov 08, 20-21 hrs UT; Brightness Unit = 2.4 x $10^3$ °K.



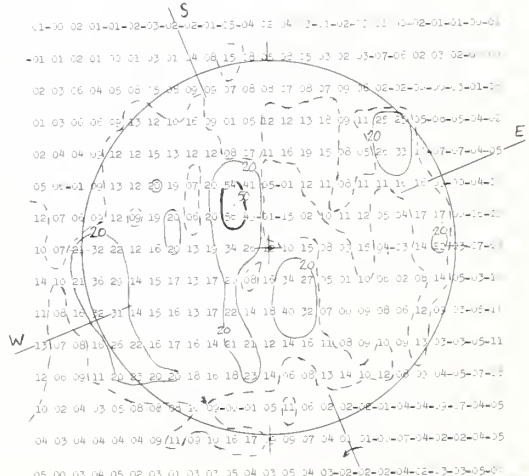

1962 NOVEMBER 09




9.1 cm SPECTROHELIOGRAM
Stanford, 1962 Nov 10, 20-21 hrs UT; Brightness Unit = 2.1 x $10^3$ °K.




9.1 cm SPECTROHELIOGRAM
Stanford, 1962 Nov 11, 20-21 hrs UT; Brightness Unit = 1.5 x $10^3$ °K.



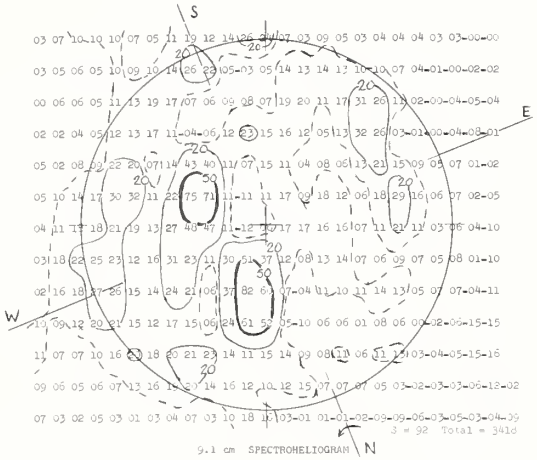

9.1 cm SPECTROHELIOGRAM
Stanford, 1962 Nov 12, 20-21 hrs UT; Brightness Unit = 1.4 x $10^3$ °K.

# SOLAR RADIO EMISSION SPECTROHELIOGRAMS

NOVEMBER 1962

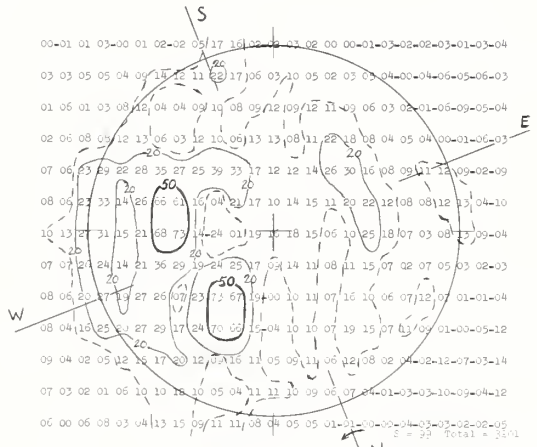
## STANFORD

9.1 cm



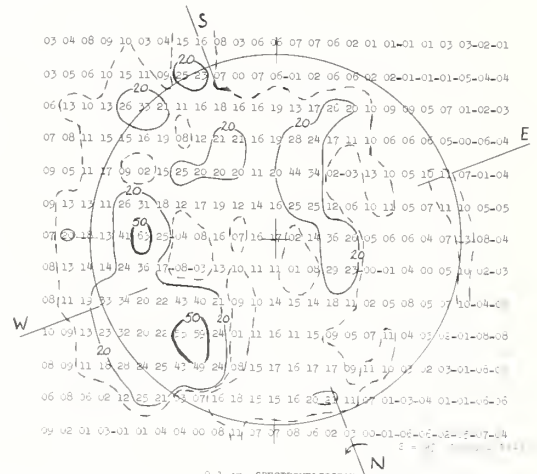

9.1 cm SPECTROHELIOGRAM

Stanford, 1962 Nov 13, 20-21 hrs UT; Brightness Unit = 2.0 x $10^3$ °K.



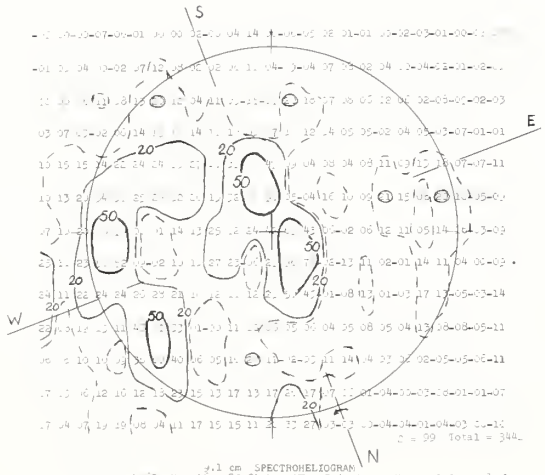

9.1 cm SPECTROHELIOGRAM

Stanford, 1962 Nov 14, 20-21 hrs UT; Brightness Unit = 2.4 x $10^3$ °K.



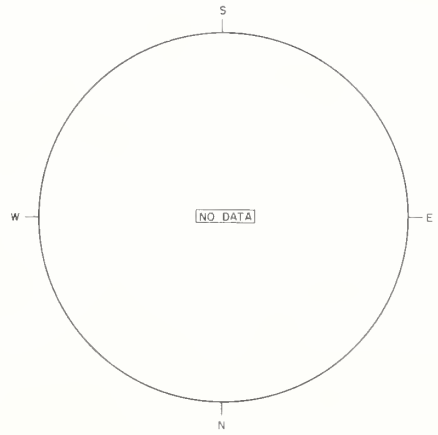

9.1 cm SPECTROHELIOGRAM

Stanford, 1962 Nov 15, 20-21 hrs UT; Brightness Unit = [illegible] °K.

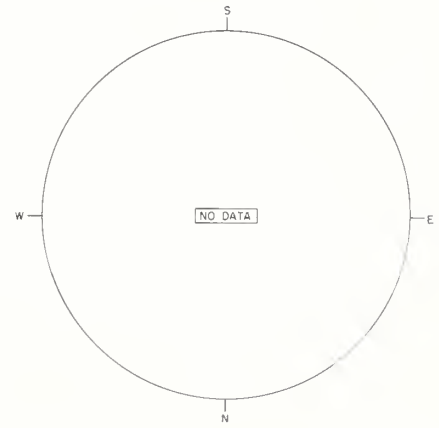



9.1 cm SPECTROHELIOGRAM

Stanford, 1962 Nov 16, 20-21 hrs UT; Brightness Unit = 2.2 x $10^3$ °K.




1962 NOVEMBER 17



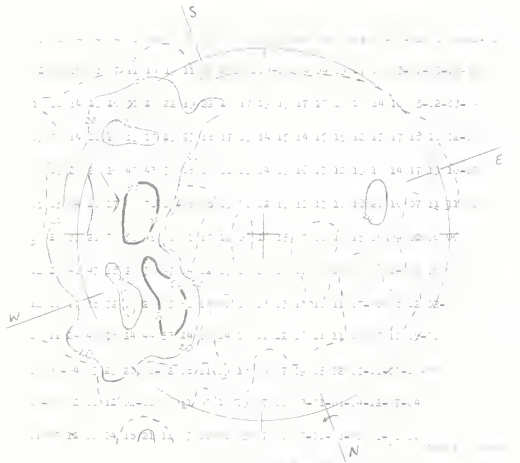

1962 NOVEMBER 18

# SOLAR RADIO EMISSION SPECTROHELIOGRAMS

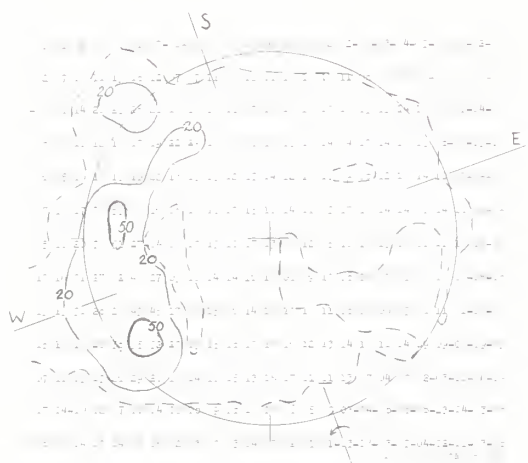
NOVEMBER 1962

STANFORD

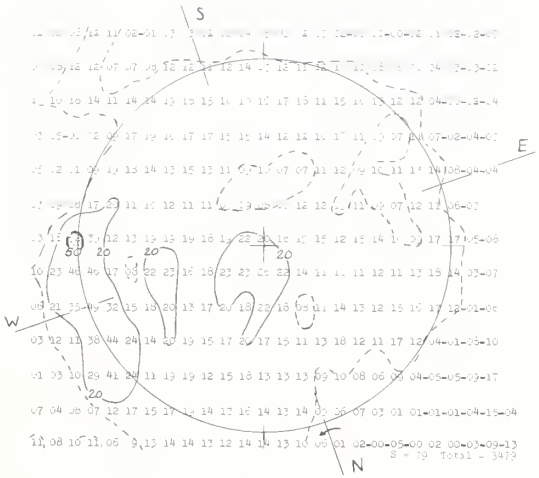
9.1 cm



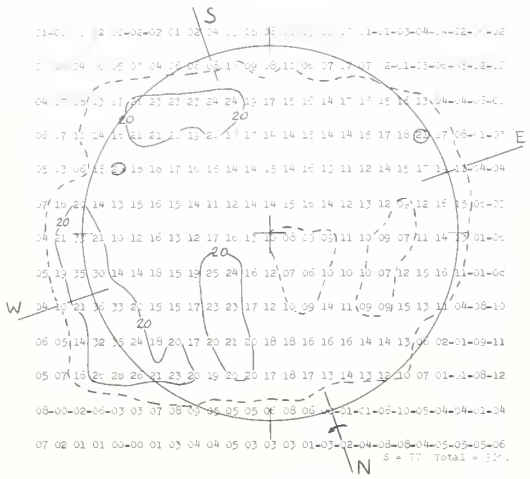

9.1 cm SPECTROHELIOGRAM
Stanford, 1962 Nov 21, 20-21 hrs UT; Brightness Unit = [illegible] °K.



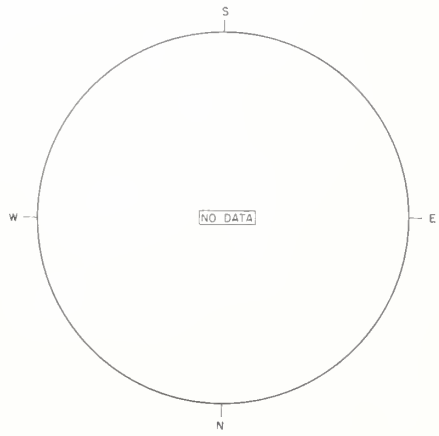

9.1 cm SPECTROHELIOGRAM
Stanford, 1962 Nov 20, 20-21 hrs UT; Brightness Unit = [illegible] °K.


9.1 cm SPECTROHELIOGRAM
Stanford, 1962 Nov 22, 20-21 hrs UT; Brightness Unit = 1.1 x $10^3$ °K.




9.1 cm SPECTROHELIOGRAM
Stanford, 1962 Nov 23, 20-21 hrs UT; Brightness Unit = 1.8 x $10^3$ °K.



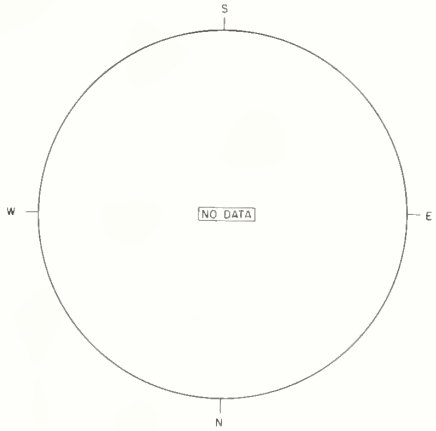

1962 NOVEMBER 24

# SOLAR RADIO EMISSION SPECTROHELIOGRAMS

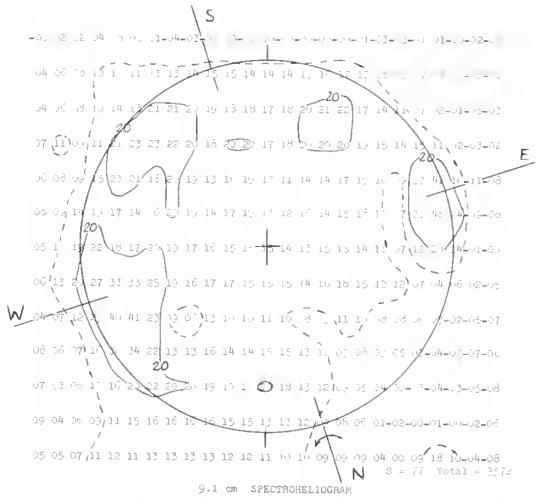
## NOVEMBER 1962

STANFORD

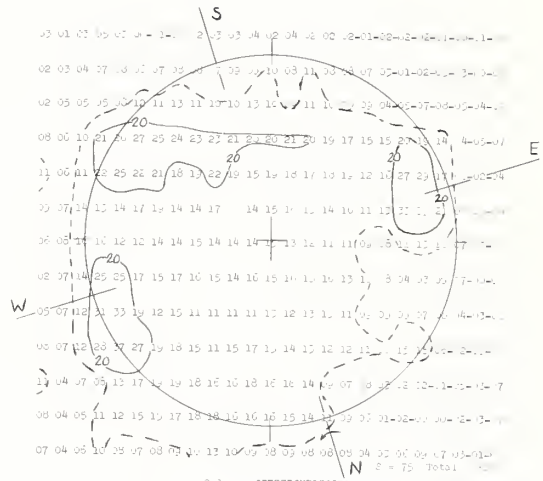
9.1 cm



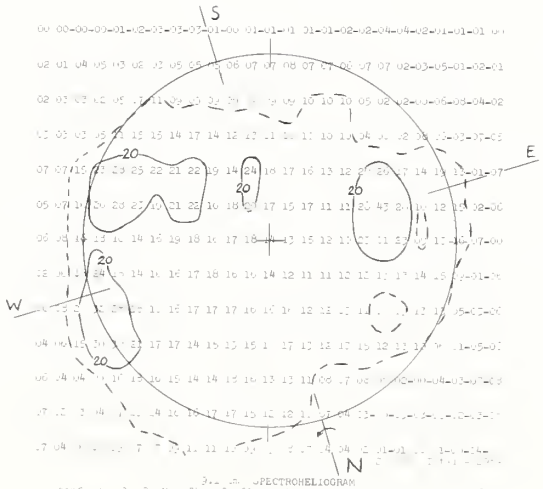

1962 NOVEMBER 25



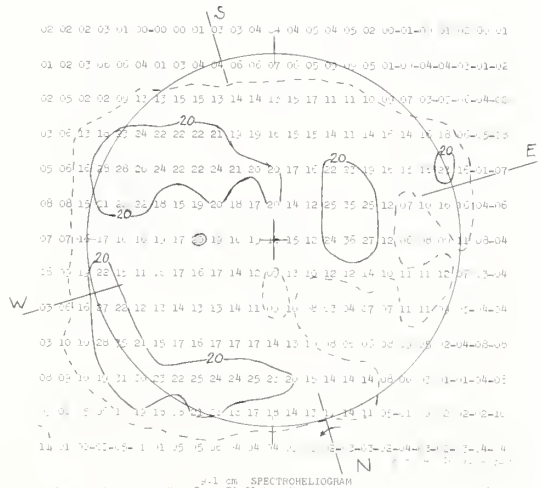

9.1 cm SPECTROHELIOGRAM
Stanford, 1962 Nov 26, 20-21 hrs UT; Brightness Unit = 1.[illegible] x 1.[illegible] °K.



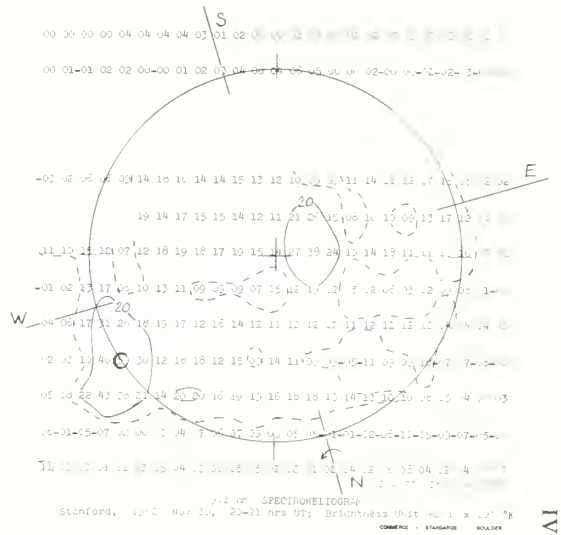

9.1 cm SPECTROHELIOGRAM
Stanford, 1962 Nov 27, 20-21 hrs UT; Brightness Unit = [illegible] °K.




9.1 cm SPECTROHELIOGRAM
Stanford, 1962 Nov 25, 20-21 hrs UT; Brightness Unit = 1 x 1.[illegible] °K.




9.1 cm SPECTROHELIOGRAM
Stanford, 1962 Nov 26, 20-21 hrs UT; Brightness Unit = 1.[illegible] x 1.[illegible] °K.




9.1 cm SPECTROHELIOGRAM
Stanford, 1962 Nov 27, 20-21 hrs UT; Brightness Unit = 1 x 1.[illegible] °K.

# COSMIC RAY INDICES

(Climax Neutron Monitor)

IGC STATION B 305

OCTOBER 1962

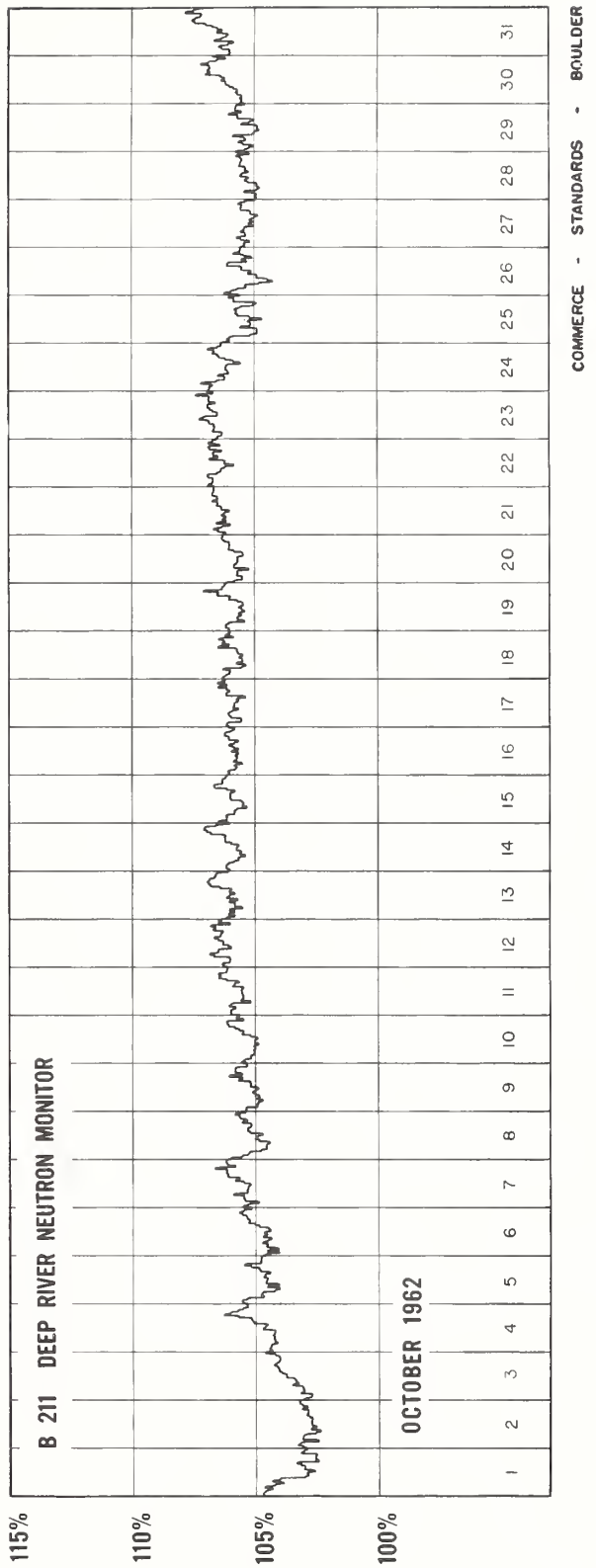
| Oct. 1962 | Daily average counts/hr* | Oct. 1962 | Daily average counts/hr* |
|---|---|---|---|
| 1 | 3004.7 | 16 | 3077.7 |
| 2 | 2995.7 | 17 | 3066.8 |
| 3 | 3014.7 | 18 | 3067.4 |
| 4 | 3056.2 | 19 | 3070.4 |
| 5 | 3054.7 | 20 | 3067.1 |
| 6 | 3052.8 | 21 | 3066.8 |
| 7 | 3061.1 | 22 | 3065.4 |
| 8 | 3046.7 | 23 | 3072.9 |
| 9 | 3045.9 | 24 | 3066.2 |
| 10 | 3057.7 | 25 | 3055.4 |
| 11 | 3077.8 | 26 | 3053.4 |
| 12 | 3082.7 | 27 | 3056.4 |
| 13 | 3094.8 | 28 | 3054.7 |
| 14 | 3116.3 | 29 | 3061.5 |
| 15 | 3111.6 | 30 | 3075.8 |
| | | 31 | 3096.8 |

* Scaling Factor 128

COMMERCE - STANDARDS - BOULDER

COSMIC RAY INDICES

(Pressure Corrected Hourly Totals)



# GEOMAGNETIC ACTIVITY INDICES

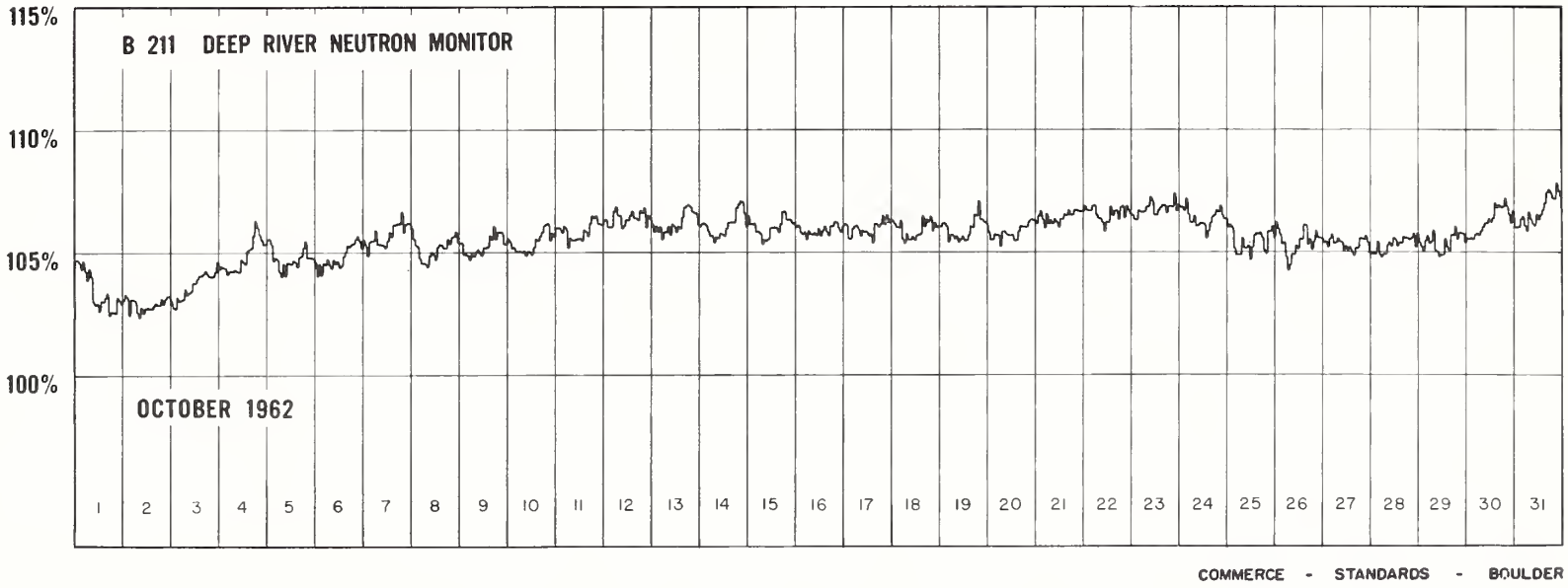
## OCTOBER 1962

| Oct. 1962 | C | Values Kp — Three hour Gr. interval 1 2 3 4 | 5 6 7 8 | Sum | Ap | Final Selected Days |
|---|---|---|---|---|---|---|
| 1 | 1.5 | 3+ 4+ 5o 5o | 5+ 5- 6- 5- | 38o | 43 | Five |
| 2 | 1.1 | 4+ 4- 5- 4- | 4- 4+ 3- 1+ | 28+ | 23 | Quiet |
| 3 | 0.7 | 2- 3- 4- 2+ | 3+ 2- 2- 3- | 20- | 11 | 4 |
| 4 | 0.6 | 2+ 3+ 3o 2o | 1- 2+ 2o 3- | 18+ | 10 | 12 |
| 5 | 0.8 | 1o 2- 1+ 1o | 1+ 3- 5- 3+ | 17o | 12 | 15 |
| | | | | | | 17 |
| 6 | 0.8 | 5- 4- 4+ 1o | 3+ 3- 0+ 2+ | 22+ | 17 | 31 |
| 7 | 0.8 | 2+ 3+ 1+ 2o | 1- 1+ 3+ 4+ | 19- | 12 | |
| 8 | 1.5 | 6+ 4- 3+ 4+ | 3+ 5- 4o 4o | 34- | 35 | |
| 9 | 1.3 | 6- 4+ 5- 4- | 4+ 4o 3o 4- | 33+ | 32 | |
| 10 | 1.2 | 4- 3+ 3- 3+ | 5- 4- 4+ 3- | 28+ | 22 | |
| 11 | 1.1 | 4- 5o 4+ 3+ | 4- 3o 4- 3+ | 30o | 25 | Five |
| 12 | 0.4 | 3o 2+ 2+ 4- | 2- 1+ 1- 1- | 16- | 9 | Disturbed |
| 13 | 0.7 | 1- 1+ 1+ 3+ | 4- 3- 2+ 3o | 18+ | 11 | 1 |
| 14 | 1.3 | 4o 4+ 5- 5- | 4o 3o 5- 4- | 33o | 30 | 8 |
| 15 | 0.5 | 3- 3+ 2+ 3- | 2- 3- 1- 2o | 18o | 10 | 9 |
| | | | | | | 25 |
| 16 | 1.1 | 3- 2o 2o 6- | 4o 2o 4- 3o | 25o | 20 | 26 |
| 17 | 0.3 | 3+ 2+ 3- 2o | 1- 0o 1o 1+ | 13+ | 7 | |
| 18 | 0.8 | 5- 5- 2- 1+ | 2- 3+ 3o 1+ | 22- | 17 | |
| 19 | 1.4 | 0+ 0o 5o 5o | 5- 5o 4- 4- | 27+ | 29 | |
| 20 | 0.6 | 2o 2o 2- 1o | 3- 3- 3o 4- | 19- | 11 | |
| 21 | 0.7 | 4- 3+ 2+ 2+ | 2o 4- 3o 2o | 22+ | 14 | Ten |
| 22 | 1.1 | 2+ 4- 3o 4o | 4+ 3+ 3+ 5- | 29- | 22 | Quiet |
| 23 | 1.0 | 5o 4o 3o 4- | 3+ 4- 3o 3+ | 29o | 23 | 3 |
| 24 | 1.3 | 3o 4- 3- 3o | 4o 5o 5- 5- | 31- | 27 | 4 |
| 25 | 1.4 | 4- 4+ 4+ 4o | 4+ 5- 5- 5o | 35o | 34 | 5 |
| | | | | | | 7 |
| 26 | 1.3 | 4- 4- 5- 4+ | 4+ 4+ 5+ 4o | 34+ | 33 | 12 |
| 27 | 1.3 | 4- 4o 5o 3o | 5o 5- 3- 3+ | 31+ | 29 | 13 |
| 28 | 0.9 | 3+ 4+ 3+ 3o | 3o 3- 3+ 3o | 26o | 18 | 15 |
| 29 | 0.7 | 3o 3- 3- 3- | 2+ 3- 2+ 3+ | 22- | 12 | 17 |
| 30 | 0.7 | 3o 3o 3o 3+ | 2+ 3o 3+ 2+ | 23+ | 14 | 20 |
| 31 | 0.7 | 2o 2+ 2+ 3- | 2o 2- 2+ 3- | 18o | 9 | 31 |
| Mean: | 0.95 | | | Mean: | 20 | |

COMMERCE - STANDARDS - BOULDER

COSMIC RAY INDICES

(Pressure Corrected Hourly Totals)



# GEOMAGNETIC ACTIVITY INDICES

## OCTOBER 1962

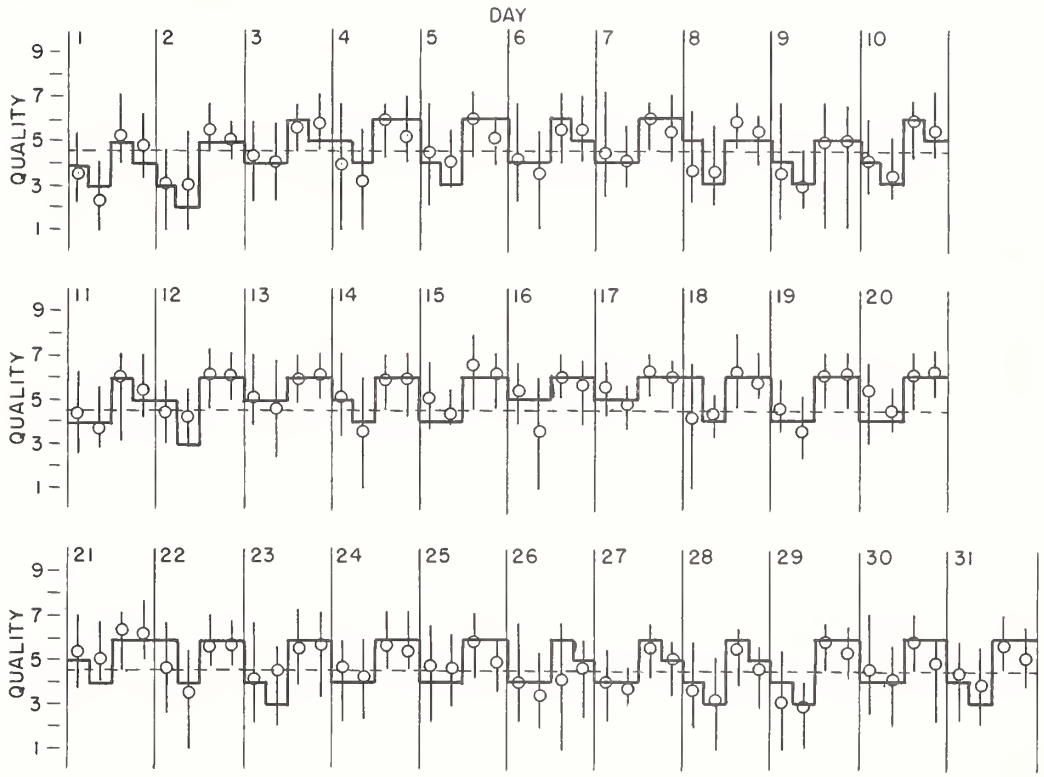
| Oct. 1962 | C | Values Kp Three hour Gr. interval 1 2 3 4 | 5 6 7 8 | Sum | Ap | Final Selected Days |
|---|---|---|---|---|---|---|
| 1 | 1.5 | 3+ 4+ 5o 5o | 5+ 5- 6- 5- | 38o | 43 | Five |
| 2 | 1.1 | 4+ 4- 5- 4- | 4- 4+ 3- 1+ | 28+ | 23 | Quiet |
| 3 | 0.7 | 2- 3- 4- 2+ | 3+ 2- 2- 3- | 20- | 11 | 4 |
| 4 | 0.6 | 2+ 3+ 3o 2o | 1- 2+ 2o 3- | 18+ | 10 | 12 |
| 5 | 0.8 | 1o 2- 1+ 1o | 1+ 3- 5- 3+ | 17o | 12 | 15 |
| | | | | | | 17 |
| 6 | 0.8 | 5- 4- 4+ 1o | 3+ 3- 0+ 2+ | 22+ | 17 | 31 |
| 7 | 0.8 | 2+ 3+ 1+ 2o | 1- 1+ 3+ 4+ | 19- | 12 | |
| 8 | 1.5 | 6+ 4- 3+ 4+ | 3+ 5- 4o 4o | 34- | 35 | |
| 9 | 1.3 | 6- 4+ 5- 4- | 4+ 4o 3o 4- | 33+ | 32 | |
| 10 | 1.2 | 4- 3+ 3- 3+ | 5- 4- 4+ 3- | 28+ | 22 | |
| 11 | 1.1 | 4- 5o 4+ 3+ | 4- 3o 4- 3+ | 30o | 25 | Five |
| 12 | 0.4 | 3o 2+ 2+ 4- | 2- 1+ 1- 1- | 16- | 9 | Disturbed |
| 13 | 0.7 | 1- 1+ 1+ 3+ | 4- 3- 2+ 3o | 18+ | 11 | 1 |
| 14 | 1.3 | 4o 4+ 5- 5- | 4o 3o 5- 4- | 33o | 30 | 8 |
| 15 | 0.5 | 3- 3+ 2+ 3- | 2- 3- 1- 2o | 18o | 10 | 9 |
| | | | | | | 25 |
| 16 | 1.1 | 3- 2o 2o 6- | 4o 2o 4- 3o | 25o | 20 | 26 |
| 17 | 0.3 | 3+ 2+ 3- 2o | 1- 0o 1o 1+ | 13+ | 7 | |
| 18 | 0.8 | 5- 5- 2- 1+ | 2- 3+ 3o 1+ | 22- | 17 | |
| 19 | 1.4 | 0+ 0o 5o 5o | 5- 5o 4- 4- | 27+ | 29 | |
| 20 | 0.6 | 2o 2o 2- 1o | 3- 3- 3o 4- | 19- | 11 | |
| 21 | 0.7 | 4- 3+ 2+ 2+ | 2o 4- 3o 2o | 22+ | 14 | Ten |
| 22 | 1.1 | 2+ 4- 3o 4o | 4+ 3+ 3+ 5- | 29- | 22 | Quiet |
| 23 | 1.0 | 5o 4o 3o 4- | 3+ 4- 3o 3+ | 29o | 23 | 3 |
| 24 | 1.3 | 3o 4- 3- 3o | 4o 5o 5- 5- | 31- | 27 | 4 |
| 25 | 1.4 | 4- 4+ 4+ 4o | 4+ 5- 5- 5o | 35o | 34 | 5 |
| | | | | | | 7 |
| 26 | 1.3 | 4- 4- 5- 4+ | 4+ 4+ 5+ 4o | 34+ | 33 | 12 |
| 27 | 1.3 | 4- 4o 5o 3o | 5o 5- 3- 3+ | 31+ | 29 | 13 |
| 28 | 0.9 | 3+ 4+ 3+ 3o | 3o 3- 3+ 3o | 26o | 18 | 15 |
| 29 | 0.7 | 3o 3- 3- 3- | 2+ 3- 2+ 3+ | 22- | 12 | 17 |
| 30 | 0.7 | 3o 3o 3o 3+ | 2+ 3o 3+ 2+ | 23+ | 14 | 20 |
| 31 | 0.7 | 2o 2+ 2+ 3- | 2o 2- 2+ 3- | 18o | 9 | 31 |
| Mean: | 0.95 | | | Mean: | 20 | |

# CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

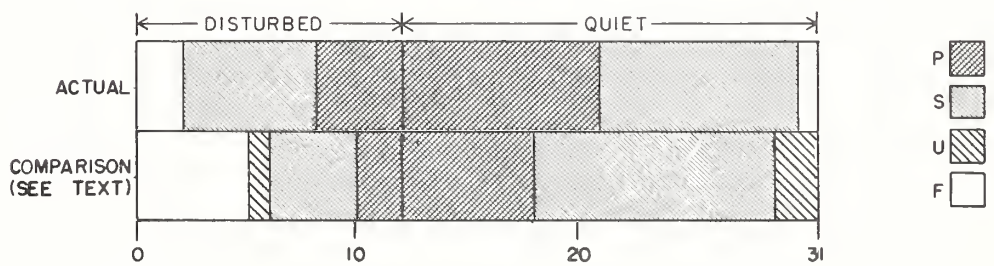
## NORTH ATLANTIC

OCTOBER 1962

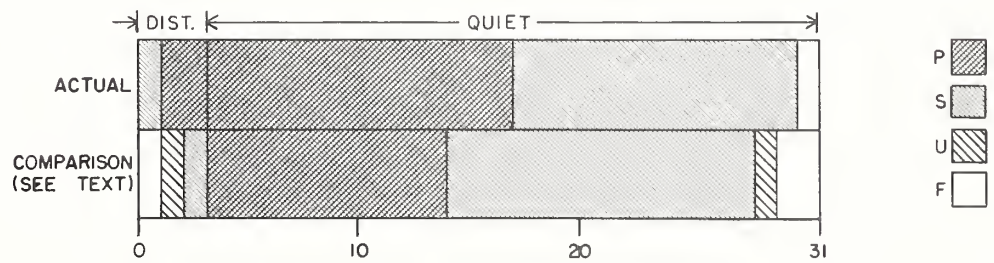
— Short-term forecast
o Quality figure
| Range of reports




NORTH ATLANTIC

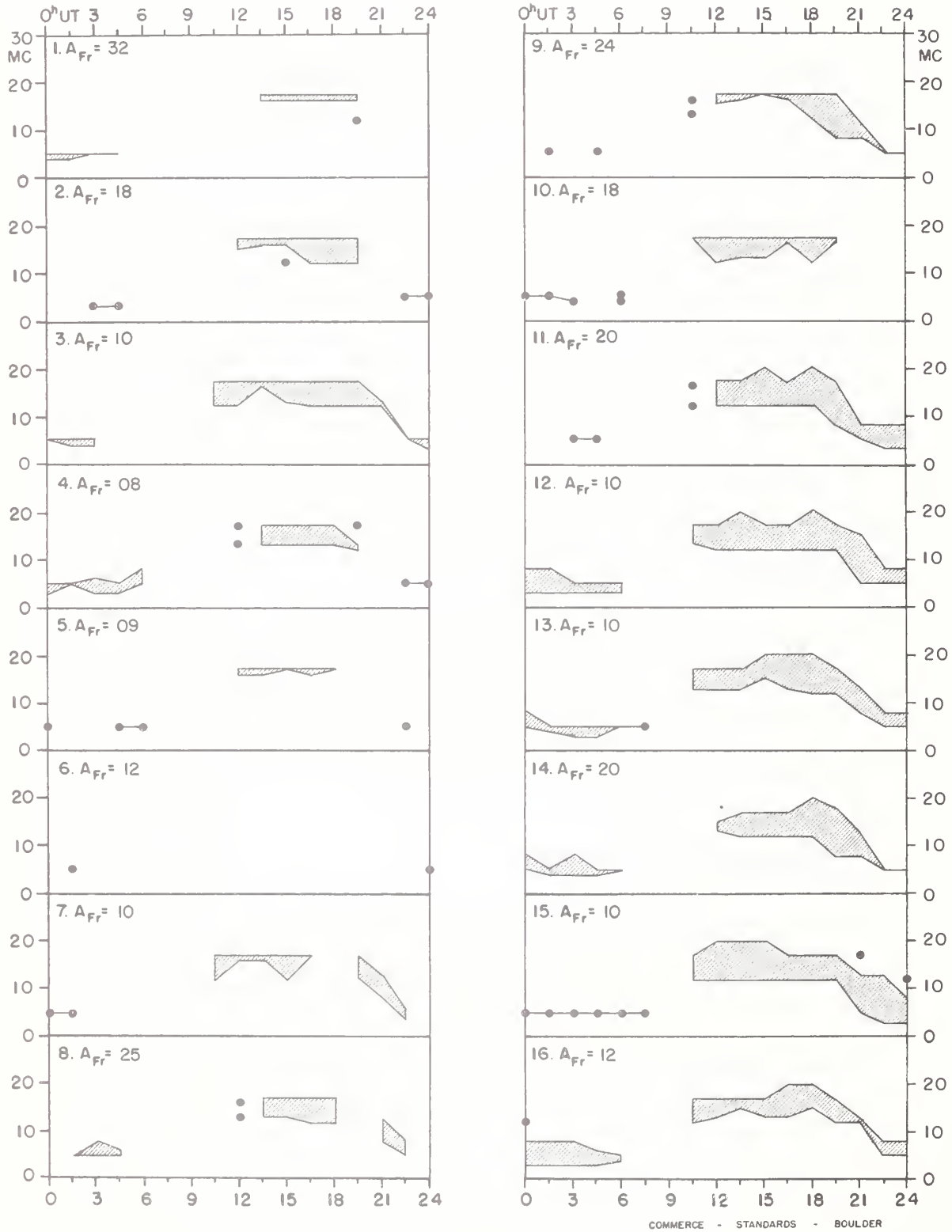



NORTH PACIFIC

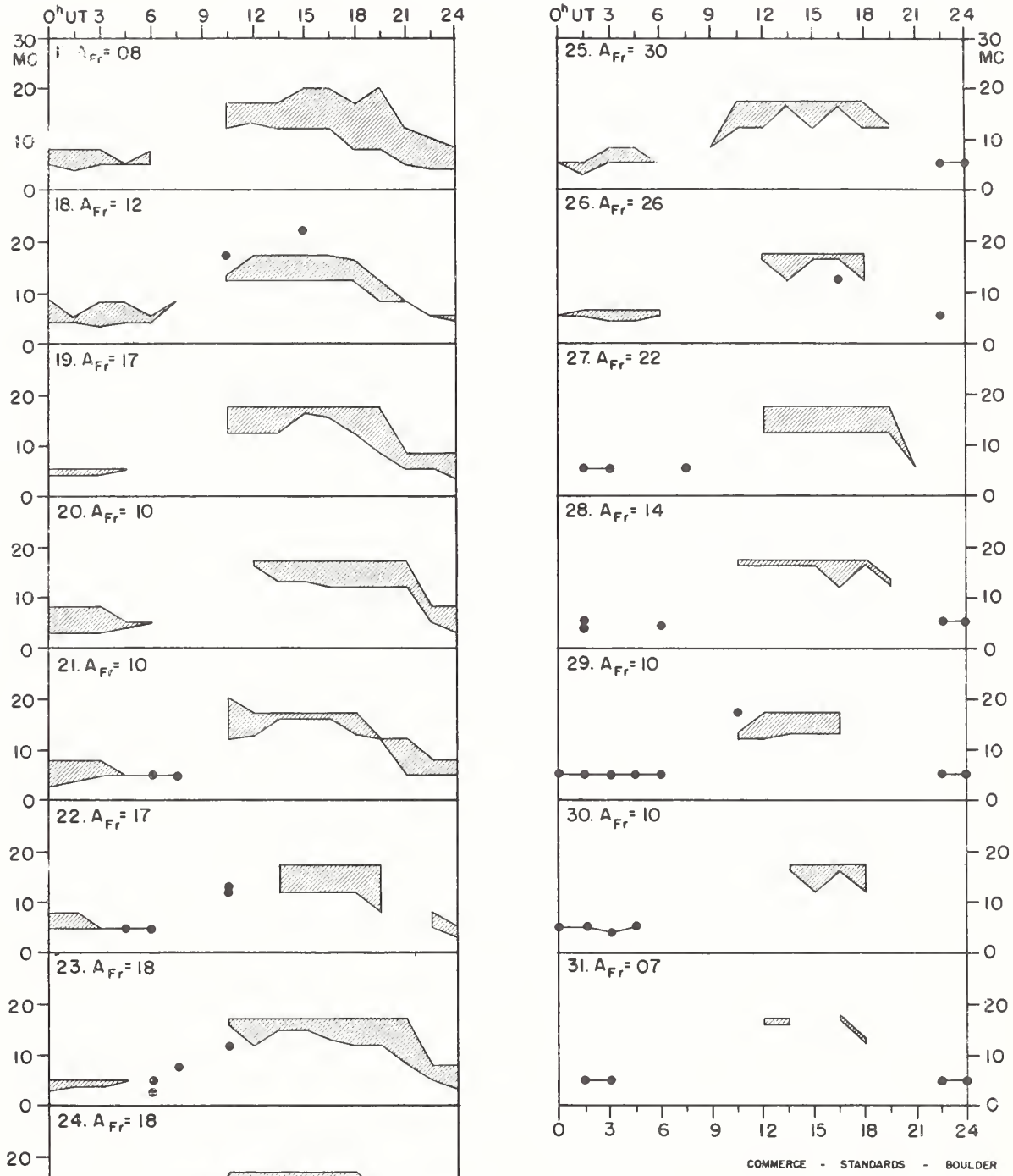


# USEFUL FREQUENCY RANGES -- NORTH ATLANTIC PATH

OCTOBER 1962



OCTOBER 1962




Adapted from Observations by Deutsches Bundespost

# ALERT PERIODS AND SPECIAL WORLD INTERVALS

## INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

NOVEMBER 1962

| Issued November 1962 Day/Time U.T. | Advance Geophysical Alert | No. | World-Wide Geophysical Alert | Special World Intervals |
|---|---|---|---|---|
| 16/2000 | Climax, Solar Flare, One Plus 16/1830Z | | | |
| 30/1340 | Ft. Belvoir, Magnetic Storms 30/01XXZ | | | |

COMMERCE - STANDARDS - BOULDER